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DIESEL RAILWAY TRACTION

The September issue of this RAILWAY GAZETTE publication, illustrating and describing developments in Diesel Railway Traction, is now ready, price 2s.

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THE RAILWAY GAZETTE

33, TOTHILL STREET, WESTMINSTER, S.W.1

British Transport Commission Report

THE first annual report and accounts of the British Transport Commission are expected to be issued within the next few days. The period covered will be the year to December 31, 1948. The delay in presenting the accounts has been occasioned by the necessity to collate and present statistics, both financial and otherwise, relating to the various transport agencies which passed under the control of the Commission on January 1, 1948, or have since been acquired under the provisions of the Transport Act, 1947. *The Financial Times*, which recently forecast that the report was likely to be issued within the first seven days of September, pointed out that its issue while the House of Commons was not sitting would not involve any question of Parliamentary privilege, as steps had been taken to safeguard this by the observance of formalities for laying the report before the House of Commons before the House rose for the present recess. There is no doubt that the results of the first year of operation will show a heavy loss, and that the bulk of this will have accrued from railway working. Although railway receipts during 1948 showed a gross rise of £34,178,000 on the previous year, there was a very heavy increase in costs during the same period.

* * * *

North British Locomotive Order for Spain

For a great many years, long before exports became the national necessity they are today, locomotive manufacturers in Great Britain went far afield for business, and this enterprise on their part, which has resulted in the building up of goodwill in all parts of the world, is proving of immense benefit to the country at the present time. Indeed, because it has been the practice in the past for British railways to build the majority of the locomotives used on their systems, the private builder has had to depend largely on his overseas trade. It is very gratifying, therefore, to learn as we go to press, the details of an important order which the North British Locomotive Co. Ltd., Springburn, Glasgow, has received for Spain from Nacional De Los Ferrocarriles Espanoles. This order is for 25 Mikado (2-8-2) type locomotives, and 100 sets of parts, the latter as raw materials, semi-finished, and finished items, with the possibility of a further 75 sets being supplied at a later date. The locomotives will have a maximum adhesion of 72,000 kg., with a tractive effort of 19,000 kg. at 85 per cent. boiler pressure. The capacity of the tender, which is of the double four-wheel bogie type, will be 24,000 litres of water and 9,000 kg. of coal, and the total weight of the engine and tender in working order will be approximately 172 metric tons. The boiler will be designed with large grate area and firebox volume to burn coal of a calorific value in the region of 7,000 calories. The locomotives are for use on passenger (including postal) trains, and fast goods services, and will be run on sections of the Spanish National Railways with gradients up to 1 in 70, and will negotiate curves of 175 metres.

* * * *

Australian Orders for British Equipment

The Railway Carriage & Wagon Builders' Export Group announced on August 24 that, although it regretted the order placed by the New South Wales Government Railways with a German firm for wagons valued at £475,000, as reported in our August 26 issue, two firms in its group have recently received orders from New South Wales for wagons totalling in value more than £1,350,000. They are the Metropolitan Cammell Carriage & Wagon Co. Ltd., which is to supply 200 brake vans to a total value of £845,000, and the Birmingham Railway Carriage & Wagon Co. Ltd., for 300 bogie louvred wagons, valued at £506,700. Other large Australian orders recently placed with the Metropolitan Cammell Carriage & Wagon Co. Ltd., include 600 bogie open wagons for Queensland, and 500 four-wheel open wagons for Victoria, of which 250 will be built by the Birmingham Railway Carriage & Wagon Co. Ltd. The combined total of these orders is approximately £1,320,000. At present, the United Kingdom is filling orders for New South Wales totalling something like £10,000,000, mostly consisting of heavy engineering equipment.

Northern Area Passenger Road Transport Board

On August 21, the British Transport Commission published a précis of its proposed passenger road transport scheme for the northern area, which has to be submitted to the Minister of Transport in accordance with section 63 of the Transport Act, 1947. The main points in this scheme, which will be described in greater detail in a later issue, include the establishment of a Northern Area Passenger Road Transport Board, consisting of a Chairman and not less than seven or more than eleven other Members appointed by the Commission, with powers to ensure the greatest measure of decentralised management, and the division of the area into three districts embracing Northumberland and Durham and the greater part of the North Riding of Yorkshire. Public opinion will have representation on the Board and consultative committees will be set up. Members of these committees will also be appointed by the Commission. Arrangements will be made between the Area Board and the Railway Executive to provide the maximum co-ordination of road and rail services, facilitate through booking and inter-availability of tickets, and to co-relate road and rail timetables. Provision is made for the continuance of existing services, partly within and partly without or passing through the area, when such services are operated by undertakings not to be transferred. If the scheme is approved, the passenger road transport undertakings of six local authorities, one joint board, and 130 other operators will be taken over.

* * * *

Overseas Railway Traffics

Although Canadian National Railway operating revenues during July fell by £99,000 to £10,351,250, there was a £2,278,750 decrease in operating expenses at £10,252,250, and last year's £2,080,750 deficit in net revenue for the month was converted to a balance of £99,000. Aggregate operating revenues for the current 30 weeks are £1,978,500 higher than for the equivalent period of 1948, but due to a £2,337,750 increase in operating revenues, the net revenue at £336,500, is down by £359,250. Paraguay Central traffics for the fortnight ended August 19 were G263,729, or higher by G92,100; previous substantial increases in receipts have brought the aggregate up to G985,426, which is G264,815 better than last year. Gold Coast receipts for July were up by £27,301, at £227,818, and traffics for the 18 weeks amount to £933,447, as compared with £861,090 for 1948-49. Despite a £4,063 decrease in Dorada traffics for July, the aggregate from January 1 is still £24,342 higher at £200,008.

* * * *

A Northern Queensland Problem

One unfortunate result of the rapid industrial development taking place in Northern Queensland is the difficulty in which it places the pioneer-constructed railways in that area. Some 200,000 sq. miles of productive territory, including the Mount Isa lead-zinc-copper-bearing area, are served only by the North Coast railway and its branches, all single 3 ft. 6 in.-gauge lines liable to traffic interruption for periods averaging two to three weeks annually. This temporary isolation of the territory is caused by the fact that the low-level bridges carrying these lines across the various rivers were cheaply built with timber piles and short spans, and are liable to submersion when the rivers are in flood. Each bridge then also forms an effective barrier to driftwood and other flotsam, which piles up against it, partly damming the current and exerting great pressure upon the bridge, thus threatening to breach it. With steelwork and other materials so scarce, these bridges can be rebuilt at the present time only with great difficulty. However, the Burdekin River Bridge, one of the largest, some 50 miles south of Townsville, is now being replaced by a fine long-span structure to carry both rail and road traffic, as described elsewhere in this issue.

* * * *

The "Tilbury" Line

With the Shenfield electrification well on the way to completion, and other urban and suburban electrification schemes thick in the air, it is not unopposite briefly to direct attention to what is one of the best steam-worked outer suburban services

left in the world—to wit, that of the Tilbury line out of Fenchurch Street Station. Southend travellers would be the first to admit that, though the description given may be accurate, it is not all they want; in fact, following Kipling's dictum: "they came and shouted in your ear; they shouted very loud and clear." Despite that, the services have always been of a high order both in regard to frequency and speed. The defects—if any—of the whole service are simply that the general timetables look as if they had been compiled in Southend—certainly that town gets all the cream, leaving but the pasteurised remnants for such places as Tilbury, Pitsea, Laindon, Upminster, and Hornchurch. The western half of the district—the old L.T.S.R. is now a separate district in the Eastern Region—bristles with operating difficulties; yet a rush-hour punctuality, taken to half-a-minute, of 88/90 per cent. into Fenchurch Street is not uncommon, and there has been a noticeable improvement in general operating this summer. Top speeds of 65/70 m.p.h. with 13-coach trains by the three-cylinder 2-6-4T engines, and turnaround times of four minutes with the same trains at Fenchurch Street, are usual; and the amount of traffic handled on the four Fenchurch Street platforms, two of which can take only 10-coach trains, is astonishing to anyone who thinks that electrification supplies the only solution to intense traffic.

* * * *

British Railways Winter Train Services

When British Railways winter timetables come into force on September 26, the booked weekly passenger train mileage will be 3,956,723, or slightly less than last winter, when the total was 3,972,458 miles, and considerably below the 1938-39 figure of 4,823,025. Speaking at a Press conference on August 31, Sir Eustace Missenden, Chairman of the Railway Executive, pointed out that the present position was the result of the restricted coal supplies available, but there would be additional main-line trains compared with last year, a number of trains would be accelerated, and facilities for advance booking of seats, also the provision of restaurant, buffet and sleeping cars, would be better than in any winter since the war. In all, there would be 41 more weekday and 22 more Sunday main-line trains, and the number of trains each week on which seats may be reserved would be increased from 2,042 to 3,275. There was still a serious shortage of passenger coaches and the condition of many of the vehicles in service was poor; however, by concentrating on repairs it had been possible to have 2,800 more vehicles available for service than at the beginning of 1948. This year's programme of 2,000 miles of track renewal was proceeding substantially according to plan and during the last twelve months the number of speed restrictions had been reduced from 229 to 200. Further details of the British Railways winter services are given elsewhere in this issue.

* * * *

Station Reconstruction in France

The extensive reorganisation project at Orleans, described in this issue, typifies the vigour with which the French National Railways are not only rebuilding in general older stations, but where practicable transforming those which are termini into through stations. Such work is costly and must be linked with town-planning schemes. Care must be taken that both in satisfying the town planners and obtaining the undoubtedly operating advantages of a through station, the convenience of the usually central position of the former terminus is not wholly lost. At Orleans an excellent solution has been reached by placing the new through station at right angles to the old terminus; trains from the Bordeaux and the Toulouse lines will enter at opposite ends, but by means of loops each will continue to Paris without reversal. In this country, Trent is, perhaps, the best example of such a layout, but there was plenty of open land for it. In large cities, where extensive demolition would be necessary to gain space for such loops, an ideal arrangement like that at Orleans may be impossible to achieve. Lille has a terminus admirably situated in the heart of the city, a facility greatly valued by business men. For this reason and also because of the expense, the terminus, which is old and replacement of which by a through station

has been long mooted, will remain, but will be modernised and its working improved by the provision of separate tracks for goods trains serving the important depots in the area.

* * * *

An Unheeded Warning

The accident near Loughborough on January 9, 1949, was unusual. A train ran into a gap in the track, where rails were being turned, and the locomotive overturned down an embankment. The driver was killed. Brigadier C. A. Langley inquired into the case, and a summary of his report appears in this issue. Some of the evidence tendered to him on an essential point was contradictory, and bore directly on the question whether the driver received an effective warning covering the work he overran. He had already passed another scene of work, concerning which there is no doubt he was fully warned. Brigadier Langley concludes, however, that he was correctly informed regarding the second site, but failed to keep his train under sufficient control. Its speed probably was higher than he thought. He was a thoroughly experienced man. An acting inspector, in charge at the second site, by some difficulties in obtaining enough men that day, had failed to provide sufficient protection, and was himself acting as inner flagman.

* * * *

Locomotive Exchange Coal and Water Rates

Editorial reference previously has been made to the report of a special committee appointed by the Railway Executive on the 1948 locomotive exchanges.* To amplify details of coal and water consumption given at the time, we publish elsewhere in this issue a chart, by means of which it is possible to compare the coal and water rates of any particular locomotive types that took part in the exchanges, in terms of consumption per d.b.h.p./hr., expressed as percentage decreases and increases. A typical instance in which the table would be used, would be for comparison between the water consumption figures of a London Midland Region "Duchess" Pacific, an Eastern Region "A4" and a Southern Region "Merchant Navy." In this case it is necessary to find the horizontal column number five, headed L.M.R. "Duchess," and then read downwards until the corresponding vertical lines, E.R. "A4" and S.R. "Merchant Navy," are reached. By reading off the figures it will be seen that the "Duchess" was 11.36 per cent. heavier on water than the "A4," and 11.02 per cent. lighter on water than the "Merchant Navy."

* * * *

Variety of Factors Influencing Performance

In the trials, there was no question of staging a contest between the various locomotives so as to prove the superiority of any one design and the accompanying table would serve little purpose if it were used to draw conclusions beyond the scope of its limitations. A variety of other factors must be taken into consideration in determining the quality of individual locomotive performances and, as we have earlier pointed out, it was an unfortunate feature of the trials that enginemen appear to have been given no definite instructions on such influential matters as time recovery and fuel consumption. In consequence, there was a lack of any common standard of driving and, in some cases, individual performance showed considerable variations. The difference between trips where there was slow uphill running and fast descents, and those where brilliant feats of hill climbing resulted in considerable improvements on schedule, makes comparison between coal consumption difficult. This is so in the case of the "Merchant Navy" and "West Country" Pacifics, where heavy coal and oil consumption should be judged in the light of their exceptional power output. A number of noteworthy performances by these engines is specially noted in the report, and one indication of their ability is given in runs from Carlisle to Euston on May 12 and 14, when on the 27 min. schedule between Penrith and Shap summit, actual times were 20.5 and 20.33 min. respectively, with a train of 525 tons full. Although obviously by no means a record, it is of significance in this direction that the highest equivalent d.b.h.p. developed by a Pacific during the trials, to be noted in the report, was by an 86-ton "West Country," when on the 1 in 176 gradient at Whetstone, 2,010 d.b.h.p. was developed.

Socialist and Capitalist Discipline

THE National Union of Railwaymen has made no secret of its ambitions to take an increasing part in the management of nationalised railways. It has been one of the foremost advocates of "workers' control" and on numerous occasions has shown its disappointment at the slowness with which its objective is being realised. In a recent issue of the *Railway Review*, the organ of the N.U.R., the principal article is devoted to "socialist discipline and capitalist discipline," and from it it is possible to form an opinion of some of the changes that the N.U.R. would bring about if it had its way. Fortunately there seems very little likelihood of that occurring within any measurable period of time.

In the light of the prevalence of unofficial strikes in the railway and other nationalised industries, one of the opening sentences of the *Railway Review* article reads a little strangely. This is:—"It is undoubtedly true that the workers in publicly owned industries should have a better sense of self-discipline than when those industries were privately owned. It is true, in a very rough way, that workers in nationalised industries are now working for the public's benefit, and not for the economic aggrandisement of the private owners." To give it due credit, the *Railway Review* immediately adds that, "it is very true that there has been little change in the attitude of the workers in publicly owned industries." It goes on to point out, however, that to put the blame on the workers, "is at least not the Marxian approach to this problem." It then goes on to view the problem from what it calls the "Marxist angle," and comes to the conclusion that the trouble lies in the fact that conditions have not yet been created, or have not reached the stage, when a new sense of self-discipline can be accepted by the workers. In the nationalised industries and also in the co-operative movement the industries and commercial institutions are within a predominantly capitalist structure of the economy and are managed according to the ethics of capitalist organisation. "They actually regard as losses the payments off-setting the ravages of years of neglect on many machines."

The *Railway Review* thinks that what is needed is for the trade unions to carry out a thorough research into the theory of management, and to evolve a new system of management which will be applicable to a socialist industrial organisation; when it comes down to the lines which this new industrial organisation can take, however, it has no concrete suggestions to offer.

It expends a great number of words in saying that fresh ideas must come from the workers; that new working class intellectuals are needed to formulate the outcome of the research; the consequences of every hypothetical proposition must be followed up scientifically and logically, and the conclusions tested by a return to the facts of the present situation. When the plan—and it seems to be assumed that all this results in a plan—has passed backwards and forwards through varying stages, fresh leadership is to be trained in the new scheme of organisation. "Old leaders must be re-schooled. The whole structures of the industry concerned must be altered necessarily over a period to fit into the scheme."

Then apparently would be the time to ask for a new sense of loyalty from the rank and file workers. New and hopeful conditions, says the *Review*, will have been created. Apparently the idea is that one cannot look for loyalty, or good discipline, in a socialised industry, unless that industry has been subjected to the chaos which would result from the implementing of the naïve ideas put forward in the article. By the time this "re-organisation" took place there would probably be no industry left, and therefore the need for either discipline or loyalty would have gone.

The National Union of Railwaymen has promulgated a number of ideas in the last year or two which have not made the task of achieving successful operation of the nationalised railways any easier. The N.U.R. was among the most ardent advocates of state controlled railways. Now that that object has been achieved it does not seem to like the result obtained any better than it did the former private ownership of the lines. Perhaps, however, it is beginning to realise that nationalisation of itself is not a panacea for all ills, whether these be real or imaginary. Its own ideas of cures seem to savour of euthanasia.

* See our July 1, 29, and August 5 issues

Traffic Control Systems and their Application to the Swiss Railways

IN an article published in a recent issue of the *Bulletin Technique de la Suisse Romande*, M. J. P. Baumgartner analyses the various systems of "train despatching" or traffic control practised in different countries and compares them with the current practice of the Swiss Federal Railways.

It is the practice of the Swiss railways to concede a good deal of initiative to local stationmasters or station foremen, who not only are in charge of all movements within station limits, but have authority to arrange, in conjunction with any other station, running or cancellation of optional trains, transfer of train crossings, overtaking, etc. This decentralised method of traffic control is facilitated by general use of graphic timetables, which are familiar to all grades of the staff, and result in a general insight into the intricacies of train movements. Another advantage is the existence of a comprehensive railway telephone system, which permits the comparatively heavy use of telephone lines necessitated by decentralised control.

By way of contrast, many foreign railways have adopted centralised traffic control, where despatch of trains over long sections of line is regulated from a single control office. Apart from this fundamental fact, there are important differences in the practice of centralised train control as between one administration and another. M. Baumgartner classifies the various systems in three groups.

There is, first of all, the classical North American method of "train despatching," where the "train despatcher" has sole authority over sections of between 20 and 150 miles in length, and transmits his orders to the train staff, who are in charge of their train throughout their journey, even within station limits. The station staff have therefore no part in the regulation of the service, except in as far as they have to transmit despatcher's messages. Passenger trains and fast freight trains work to booked timings, but intermediate timings of local goods trains are not scheduled. It seems particularly suitable for lines with relatively light traffic, the duties of station staff being exclusively commercial.

There is, secondly, the French system of "train regulation," where it is the station staff, and not the train staff, who act as agents of the traffic controller. The latter is responsible for sections of up to 60 miles-length. The authority for conditional and special workings, cancellations, and temporary single-line working, etc., is vested in him, and his orders are transmitted to the stationmasters who are responsible to him for train operation. Train controllers of several sections are sometimes located in a joint "Poste de Commandement" under the supervision of an operating official of higher rank, who is assisted by an official of the Motive Power Department. The close liaison thus obtained between adjacent sections, and between the operating and locomotive departments, results in high efficiency of operation and locomotive user.

A similar system was introduced, during the war, by the German railways on certain sections with heavy traffic. So-called "Zugüberwachungsstellen" (Train Supervision Posts) were established to cover an aggregate route mileage of some 3,700 miles, all with more than 150 trains per day on double-line, or more than 70 trains per day on single-line sections.

There is, thirdly, "Centralised Traffic Control," in which all points and non-automatic signals on sections of sometimes over 100 miles in length are concentrated in one master signal box, whilst the intermediate signals are controlled automatically by track circuits. In this case, it is the signalman in the master box who acts as traffic controller, and neither train staff nor station staff have any part in control. Such a system results in great efficiency in operation, and facilitates running of non-scheduled trains. It has found application in North America and, to a lesser extent, elsewhere.

Having outlined various foreign systems of traffic control, M. Baumgartner proceeds to examine their suitability to Swiss conditions. The system of decentralised control in force in Switzerland has the advantage of developing initiative in station staffs, by whom decisions must be made; but the great disadvantage of the system is the inability of station staffs to know exactly what is happening outside their own immediate sphere. Moreover, messages regarding delays, cancellations, special workings, or transfer of crossings and overtakings, if initiated locally, require a great number of telephone or tele-

graph messages and confirmations, causing the station staff to spend considerable time at the very moment when the irregularities concerned demand their full attention.

In such circumstances, the function of the operational headquarters is merely administrative. Train journals and station reports are scrutinised, mainly for statistical purposes, and possibly with a view to disciplinary or educational action. Even for such limited functions, the Swiss railways employ one man per 5,000 train miles per day. There is no one in a position to have a complete picture of the operation of the line at any given moment.

In contrast, a despatcher is able to ascertain the exact state of line occupation at any moment, and to trace the graph of actual operation on the background of the graph of scheduled operation. He is therefore in a position to intervene efficiently and to improve running as a whole. He will accumulate greater experience in operating than the local stationmaster is able to do. The number of messages and confirmations exchanged between stations is reduced by about 60 per cent., and savings can be effected in the number and grades of station staffs; as a general rule, the number of highly-trained staff can be reduced.

In Swiss conditions of railway operating, M. Baumgartner favours the French system of train despatching, for the American system is not so suited to the frequent and heterogeneous traffic of Swiss main lines, whilst centralised control of signals and points would on Swiss railways incur unreasonably high expenditure, mainly because two-thirds of the sleepers are of iron and would have to be replaced for purposes of track-circuiting. Even the French system would have to be adapted, since average train frequency in Switzerland is higher, and the demands of punctuality and motive power user are more stringent.

Ceylon Government Railway

THE annual report of the Ceylon Government Railway shows that for the financial year October 1, 1947—September 30, 1948, there was a loss in working amounting to Rs. 18,394,348, or a total deficit of Rs. 22,669,768, inclusive of interest and annuities payable. The loss in working for the previous year was Rs. 14,497,982, or a total deficit of Rs. 18,163,070.

A noteworthy feature in the working of the railway with such heavy losses is that, although there is an increase in the revenue last year, the expenditure continues to mount, leaving a heavy deficit year after year. Relevant statistics are:—

Year	Revenue Rs.	Expenditure Rs.	Working cost per train mile Rs. Cts.
1941-42	28,302,436	24,439,334	5 80
1942-43	39,693,952	28,880,704	8 30
1943-44	52,010,771	32,218,329	9 5
1944-45	59,592,041	39,746,454	10 59
1945-46	56,308,688	52,097,685	12 54
1946-47	48,349,070	62,847,052	14 15
1947-48	52,468,355	70,862,703	13 86

Contributory causes to this loss in working are analysed in detail in the report by Mr. M. Kanagasabay, the Acting General Manager of Railways, who by way of comparison points out that since 1938-39 the salaries bill has risen by over Rs. 10,000,000 (95·6 per cent.), the fuel bill by over Rs. 11,000,000 (466 per cent.), the cost of living allowance by over Rs. 13,000,000 overtime payments by Rs. 1,869,800 (968 per cent.), Sunday pay by over Rs. 2,000,000 (732 per cent.), stores and other materials by Rs. 3,578,400 (185 per cent.), and the claims on the railway on account of losses by over Rs. 330,000 (2·825 per cent.).

Forty-seven per cent. of the revenue of Rs. 52,468,355, or Rs. 24,528,840, has been from passenger traffic, and 42 per cent., or Rs. 21,864,123, from goods traffic. In regard to the expenditure of Rs. 70,862,703, 54 per cent., or Rs. 38,107,856, was spent on salaries and wages of staff, 19 per cent., or Rs. 13,470,130, was spent on fuel, and the balance on other items, such as pensions and gratuities, and materials.

More passengers were conveyed by rail in 1947-48 than in 1946-47, but earnings from passenger traffic were lower. The increase in first and second class fares caused a drop in upper-class traffic, which was accentuated by the reduction in movements of Services personnel. Even earnings from third class traffic showed a decline, in spite of an increase in volume. This was apparently due to an increase in the pro-

portion of short-distance traffic, for example, traffic during pilgrim seasons, independence celebrations, and so on. Earnings from season ticket, parcels, and goods traffic registered increases.

It is pointed out that the loss in working is not peculiar to the Ceylon Railway, and that growing competition from road transport has upset the economy of many railways in other parts of the world. The Ceylon Railway continues to adhere rigorously to a statutory goods classification and rates schedule, while road hauliers have the advantage of fixing separate rates for different traders and abstracting traffic from the railway by a subtle adjustment of charges. Losses have been increased by the rise in wages as a result of the grant of more liberal conditions of service, and by increased cost of stores and materials.

Mr. Kanagasabay suggests that means to effect an approximation between revenue and expenditure are a complete revision and adjustment of freight rates and passenger fares, to bring the charges more into line with the mounting costs of service, and the withdrawal of concessions on certain other classes of passengers and goods now enjoying concession rates. The Government has conceded the latter in principle by its agreement to reimburse the railway to the extent of approximately Rs. 1,350,000 a year from 1949-50 onwards, though, in equity, the reimbursement should date from at least 1946-47, the year in which the railway registered its first post-war loss in working. These proposals, supplemented by closer regulation of road transport, should, in Mr. Kanagasabay's opinion, immediately arrest the loss in working.

In the meantime, every effort is made to reduce working expenses by adoption of mechanical devices, closing of stations during slack hours, and by other means, but large-scale economies in expenditure are hardly possible. Salaries and wages, cost-of-living allowances, and so on, cannot be cut down, as they are either statutorily fixed or regulated by Governmental or financial orders. The cost of materials and stores essential for railway working and in use every day in the year is still many times its pre-war figure. It has not been possible so far to enter into long-term contracts for the supply of these materials and secure a temporary benefit in prices, because of the acute shortage of these materials in world markets.

In conclusion, Mr. Kanagasabay mentions the fact that the year 1948, though not filled with outstanding events, was one of steady progress, and without strikes and other disturbances. The personnel, in the higher executive grades particularly, was badly depleted by retirements, absence of officers on leave, etc., but in spite of this the railway earned more revenue, maintained an improved scheduled service, handled more freight, and carried a larger number of passengers.

* * * *

British Transport Commission Traffic Receipts

After showing a considerable improvement for the four weeks ended July 17, and also an increase for the previous four weeks, another decline in the gross revenue of the British Transport Commission is shown in the latest return of traffic receipts, which covers the four-week period ended August 14. In this period, the receipts, at £31,964,000, compared with £32,811,000 a year ago, which represents a decrease of £847,000 as compared with a gain of £141,000 for the previous period. For the 32 weeks of the current year to August 14, as compared with the same period a year ago, aggregate traffic receipts of the British Transport Commission, at £235,673,000 are now less by £4,334,000.

British Railways receipts for the most recent four-week period totalled £27,404,000, which is only £62,000 more than the previous four weeks despite the incidence of the August holiday, and they were £795,000 less than last year. Passenger receipts were £677,000 down, totalling £13,829,000, against £14,506,000. The latest aggregate decrease was, therefore, largely due to the decline in this class of traffic. Parcels by passenger train showed a decrease of £20,000 for the August period and a total decrease of £267,000 for the 32 weeks. There was a further decline in merchandise of £203,000, partly due no doubt to the holiday period, and the total decrease in this traffic as compared with last year is £1,263,000. In certain other categories there have been small increases,

e.g., minerals at £1,875,000 showed an improvement of £11,000, while coal and coke at £4,218,000 showed an increase of £94,000.

The table below gives details of the various traffics for the four weeks to August 14 and the aggregates for the 32 weeks to that date compared with the similar periods of last year.

	Four weeks to August 14		Incr. or decr.	Aggregate to August 14		Incr. or decr.
	1949	1948		1949	1948	
British Railways—	£000	£000	£000	£000	£000	£000
Passengers	13,829	14,506	— 677	72,153	77,658	— 5,505
Parcels, etc., by passenger train	2,296	2,316	— 20	17,585	17,852	— 267
Merchandise & livestock	5,186	5,389	— 203	50,332	51,595	— 1,263
Minerals	1,875	1,864	+ 11	17,960	17,293	+ 667
Coal & coke	4,218	4,124	+ 94	41,483	39,290	+ 2,193
	27,404	28,199	— 795	199,513	203,688	— 4,175
London Transport—						
Railways	1,080	1,119	— 39	8,874	8,973	— 99
Buses & coaches	2,501	2,515	— 14	19,344	19,385	— 41
Trams & trolleybuses	830	855	— 25	6,735	6,905	— 170
	4,411	4,489	— 78	34,953	35,263	— 310
Inland Waterways—						
Tolls	52	54	— 2	458	456	+ 2
Freight charges, etc.	97	69	+ 28	749	600	+ 149
	149	123	+ 26	1,207	1,056	+ 151
Total	31,964	32,811	— 847	235,673	240,007	— 4,334

For the 32 weeks of the current year the aggregate results of British Railways are now £4,175,000 down at £199,513,000. The only categories showing improvements are mineral traffic, which is £667,000 greater at £17,960,000, and coal and coke, which at £141,483,000 has brought in £2,193,000 more revenue. London Transport receipts for the year are now less by £310,000 at £34,953,000, but Inland Waterways tolls and freights have brought in £1,207,000, showing an increase in receipts of £151,000.

Passenger Fares and Train Services

By J. H. Laundry,
formerly Audit Accountant, Southern Region

VARIOUS letters have appeared in *The Railway Gazette* following my plan in your January 28, 1949, issue, printed by you as a booklet,* and widely differing views have been expressed by your various correspondents.

The one point on which all correspondents are agreed is that the present level of railway fares is too high, but whereas some consider that ordinary fares should be reduced and cheap tickets by ordinary train abolished (the course advocated in my article) others wish to retain cheap tickets in conjunction with much reduced ordinary fares; one correspondent considers a more vigorous cheap ticket policy to be the remedy. A further point of fairly general agreement is that rail and road fares should be on the same level.

All seem to think that, provided the reduction in the level of ordinary fares is really drastic, sufficient additional passengers would be attracted to rail, not only to offset the loss on passengers who, but for the reduction, would have paid existing fares, but actually to increase rail passenger revenue.

The vital point as to how the Commission is to increase its passenger revenue as a whole—rail, steamer, road and London Transport—is completely ignored by all your correspondents, although this is surely the crux of the whole matter, as unless nationalised transport is to become yet another burden on the income tax payer, there would appear to be no alternative to increasing the charges to some at least of the users in view of the seeming impossibility of drastically reducing either wages or cost of materials. A reduction of rail fares to the present level of bus fares might conceivably attract sufficient additional passengers to rail to increase existing revenue from

* *The Problem of Railway Passenger Fares & Train Services.* By J. H. Laundry. *The Railway Gazette.* Price 1s.

short-distance rail traffic, but it certainly would not do so for long-distance (say over 50 miles) traffic. Even with short distance traffic, the additional traffic accruing to rail would be mainly at the expense of London Transport and the provincial "associated" bus companies (owned or partly owned by the Commission), so that the inevitable result would be to reduce the Commission's passenger revenue as a whole.

Mr. Blayney (June 10 issue) says that equalisation of train and bus fares is the crux of the matter, suggests the abolition of "cheap" tickets, and states it is immaterial to railways whether a passenger returns same day or six months hence—with all of which I am in agreement. He then somewhat illogically suggests return fares for three months should be single fare and a half. The only valid reason for giving a reduction for a return journey is the competitive one, that is, to assure that the passenger returns by your route. With nationalised transport this reason disappears, and it is surely better to charge for *all* journeys—whether single or return—at the lowest economical rate. The idea of offering "something for nothing," for instance, single fare or single fare and a half for the double journey, savours of the bargain basement and should surely be discontinued, under existing conditions.

Mr. J. M. Pike (May 27 issue) states the restrictions and conditions attaching to cheap tickets border on stupidity, and suggests the charge should be 1d. per mile for work or pleasure—presumably no cheap workmen's or season ticket rates. Although many may agree with him in regard to cheap tickets, one wonders what would be the reactions of the 3,000 or so Brighton-London season ticket holders, who would be called on to pay £105 a year third class under this proposal, as against £85 first class and £61 third class today, to say nothing of the many thousands at present taking workmen's tickets at very much less than 1d. per mile. This gentleman asks whether I would agree that the problem was to get more passengers back to the railways from a national point of view. I certainly would, and if he will refer to the concluding paragraph of my article he will see that the intention of my proposals was "to spread the load more evenly over the various forms of transport" by equalising fares at a level which would enable the Commission to obtain from passenger traffic its appropriate share of the total amount required to meet expenses.

Mr. E. R. B. Roberts (June 3 issue) states that I overlooked the fact that Ministry of Transport policy in this nationalised industry is that one form of transport must not be fostered artificially at the expense of another. In this I appear to be in good company, as the Minister of Transport himself is reported as having told the Railway Clerks' Association Conference at Bournemouth in May last that the real solution of the railways' financial difficulties lay in pooling the receipts of all transport services (page 597 of June 3 issue). My proposals have precisely this end in view—that the loss on the railway swings should be made up by the gain on the bus, etc., roundabouts, whilst enabling the travelling public to use either form of transport at equal fares.

The same correspondent (Mr. Roberts) suggests a reduction in ordinary fares to 1d. a mile single and 1½d. a mile return (½d. a mile each way) as against existing rates of 2½d. a mile single and 1½d. a mile each way for monthly returns, and in support of his suggestion quotes reductions made "in the early 1930s," first to 1d. a mile for single and return fares and "two years later" to ½d. a mile for return fares, with resulting gratifying increases in receipts in each case. Unfortunately for his argument, there were no such fare reductions, the single and return "standard" or ordinary fares remaining at 1½d. a mile from 1928 to 1937.

The Railway Rates Tribunal alone had the power to alter these standard charges—either up or down—and then only if in its opinion the alteration would enable the railway companies to approach more nearly to their "standard revenue" as laid down in the Railways Act, 1921. "Summer tickets" at 1d. a mile were, however, introduced experimentally in 1933 and were made permanent as "monthly returns" some two years later. At about the same time there was a considerable extension of cheap fare facilities such as day, half day, evening excursions, etc., at ½d. or less per mile, but these, though fairly extensive, were by no means general and were in many instances subject to restrictions as to trains, etc. The receipts from passengers fell at an average rate of nearly 3,000,000 a

year from 1928 to 1932, about which time the economic depression and unemployment were at their worst. Subsequently they rose steadily at an average of about 1,250,000 a year to 1937, followed by a slight fall in 1938, but this was probably due as much to economic conditions as to the incidence of cheap fares.

Mr. K. F. Browne (April 22 issue) suggests that the mileage basis for fares be scrapped and the fixing of fares for each area left to the local managers. He also makes a number of other revolutionary proposals which one fears would find little favour with anyone who had had practical experience of railway working.

Mr. L. R. Jones (July 29 issue) suggests 1½d. a mile single for all traffic in the London area and this is in line with the proposals in my article, but he goes on to suggest reduced return fares of 1d. a mile for day tickets and 1¼d. a mile for monthly returns, for which there appears to be no logical reason. It is also contrary to existing London Transport practice (with a few exceptions).

Mr. Dyckhoff (February 18 issue) advocates a more vigorous cheap-ticket policy, and it is on these lines that the Railway Executive is apparently experimenting, pending the submission of new charges schemes under the terms of the Transport Act. It is always exceedingly difficult to ascertain with certainty the effect of increasing or decreasing fares (including the introduction of "cheap" fares), for the reason that it is absolutely impossible to say what the receipts would have been had there been no such increase or decrease. The best method is probably to ascertain the "trend" of the receipts for a period immediately before an increase or decrease, and contrast them with the "trend" for a period immediately after the event, but even this method is not infallible, as there may be disturbing elements, such as strikes or the vagaries of the weather or even of the calendar, which affect adversely the receipts in one or other of the periods under review.

It is too early yet to come to definite conclusions as to the effect of the recent extension of cheap ticket facilities, particularly as many of them did not operate until mid-April, but the following comparisons may be of interest:—

(1) For the three months October-December, 1948, compared with the corresponding period of 1947, passenger receipts declined from £27,119,000 to £25,681,000, equal to 5·3 per cent., see Table A.2 of British Transport Commission statistics.

(2) For the 28 weeks ended July 17, 1949, compared with the corresponding period of 1948, passenger receipts declined from £63,152,000 to £58,324,000, equal to £4,828,000, see August 5 issue of *The Railway Gazette*.

(3) At the "trend" rate of decrease for October-December, namely, 5·3 per cent., the decrease for the past 28 weeks of 1949 would have been 5·3 per cent. of £63,152,000 = £3,347,000.

(4) Additional loss in passenger receipts 1949, as compared with the 1948 "trend" rate of decrease, £1,481,000.

The foregoing would seem to indicate that the effect of the extension of cheap ticket facilities during 1949 has resulted in an additional loss of approximately £1,500,000 during the first 28 weeks, but, as mentioned previously, there may have been disturbing factors in one of the periods. One factor which immediately springs to mind is the Sunday token strikes in the Eastern and North Eastern Regions, but although this must undoubtedly have caused loss of receipts, the extent of such loss must be very problematical.

The figures quoted above include receipts from workmen and season tickets which would be only very slightly affected by the extension of cheap ticket facilities, but as detailed statistics showing the receipts in categories have only been published by the B.T.C. up to April, no useful information can be deduced from these. By the end of the year, however, the detailed results up to September should be available, and it should then be possible to form a pretty good idea of the effect on railway revenue of the extension of cheap ticket facilities in 1949.

With regard to train services, apart from certain criticisms by Mr. K. F. Browne which were obviously based on a complete misunderstanding of my proposals, very little has been said, but it seems to be agreed that, particularly for short-distance traffic, they should be frequent and regular if the railways are to carry their fair share of this traffic.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Track Marking Systems

15, Cranner Court,
London, S.W.3. August 26

TO THE EDITOR OF THE RAILWAY GAZETTE
SIR.—The track marking system commenced in this country long before the early nineteen thirties, mentioned by Mr. Baxter in your issue of August 26.

When I was a young engineer on the London & South Western Railway, the Chief Engineer—Mr. J. W. Jacomb-Hood—visited America and brought the idea back with him and applied it to the L.S.W.R. in 1904.

I was one of the team who traversed every inch of the line each year in an inspection coach. We junior members of the team were each detailed to watch a specific thing, e.g., track alignment, ballasting, fencing, ditching, etc., while the senior officers, including Jacomb-Hood himself, kept a roving eye on all the items.

To become the prize length in each Division, with a corresponding cash prize, produced keen competition, and the general improvement in the standard of permanent way work was speedy and considerable.

In those days workpeople took a pride in their work!

Yours faithfully,
GILBERT S. SZLUMPER

56, Ovington Street,
London, S.W.3. August 26

TO THE EDITOR OF THE RAILWAY GAZETTE
SIR.—It was interesting to read Mr. Baxter's letter in your issue of August 26 on the subject of awarding marks for length maintenance.

As a matter of permanent-way history, it may be of interest to record that a complete system of awards, with prizes for good maintenance, was instituted by the late Mr. J. W. Jacomb-Hood, then Chief Engineer of the London & South Western Railway, as far back as 1904.

An annual inspection was made, to which senior civil engineers of other railways were invited to act as judges. The inspection was carried out in a special train, with an observation car at the tail end, from which the judging committee viewed the track. The committee was divided into sections, for "line and level," "hedges and ditches," and "general appearance." The gangers' lengths were clearly indicated by signboards, and each section of the committee awarded the number of marks it thought appropriate.

Cash prizes were given to the gang in each Permanent Way Inspector's section which had highest total marks; and to the Inspector, in each Division, whose gangs totalled the highest. The Divisional Permanent Way Superintendents competed, on the same standards, for a cup, which was held for a year.

The writer, then a pupil of Mr. Jacomb-Hood, had the pleasure of assisting at several of these annual inspections which, incidentally were most enjoyable functions.

Yours faithfully,
RICHARD THOMAS
Consulting Engineer

Railway Standards

Ravensbourne,
Berkhamsted. August 19

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Referring to Mr. Savill's comments in your issue of August 12, although not a professional railwayman myself I think I can claim to possess a fair knowledge of inside working, and am well able to appreciate the many difficulties encountered under present circumstances. I can well understand, of course, that conditions on the former Great North of Scotland Railway can hardly be compared with such centres

as Crewe, Stratford, Camden, Kings Cross etc., but Mr. Savill rather proves my point by citing such an isolated exception as Dover, where admittedly the standard of cleanliness may be above average. Other similar instances could be quoted here and there on every Region, but it is the fact they are so few and far between which is the point.

The vast majority of running sheds—or motive power depots, as they are now called—present a dismal show of filthy engines such as can be seen from the train any day at Tonbridge, for instance, to quote an example that comes readily to mind. Mr. Savill's reference to two or three engines engaged on empty stock working between Waterloo and Clapham Junction, again quotes the exception rather than the rule, ignoring the shabby appearance of many others engaged on the same work, or the shunting engines in the carriage sidings at the latter station.

Even in the West Country, where conditions should approximate somewhat to those on the Great North of Scotland, I was particularly struck recently by the disgraceful condition externally of the tanks used for banking between Exeter St. Davids and Central stations, engines very much before the public eye and as such a very bad advertisement for the railway. On the Western Region in this area also the general appearance of the locos was as bad, or even worse.

One appreciates that it is impossible to hope for anything approaching a return to the old pre-grouping days, but in spite of all difficulties I am still sure that something could and should be done to effect some improvement over the present deplorable state of affairs. The psychological aspect not only affects the travelling public, but has, I know, at the same time a depressing effect on the enginemen themselves, many of whom would undoubtedly feel more constrained—subconsciously or otherwise—to get the best out of their engine when they feel they are in charge of a well-cared for machine, both internally and externally. This contention is borne out, if I may be pardoned for referring to the Great North once again, by the fact that the locomotive working on that section is today as smart as can be found anywhere.

Mr. Savill's remarks in the concluding paragraph of his letter are not very clear, but as a fellow member of the same society to which he refers he must obviously be in a position to appreciate the common views from both sides, professional and layman. I say our common views, because after all we in our slightly different ways have the wellbeing and good reputation of our railway system at heart.

Yours faithfully,

H. C. CASSERLEY

[Our correspondent apparently wrote his letter before having had an opportunity to read the editorial note on page 203 of our August 19 issue.—ED., R.G.]

Combined Buffet-Diners

12, Holland Street,
Crewe. August 2

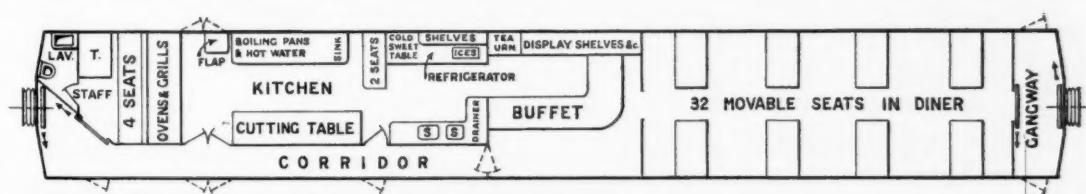
TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—It has occurred to me that better use might be made of dining cars by the inclusion of a buffet counter.

Consider a train leaving London at approximately 12.40 p.m. Two sittings of lunch are served until about two o'clock, with teas from about three o'clock to the end of the journey. With the 12.40 p.m. departure many passengers will have had their lunch in London and will not want one on the train, but by two o'clock they will be feeling hungry again, and no doubt would purchase something more substantial than a bread and jam tea, if a buffet were provided.

The combined buffet-diner, of which a diagram appears below, would therefore earn more for the Hotels Executive by serving light lunches at approximately 2s. 6d., as well as tea at 1s. 6d., after the normal luncheon service has finished. These cars could be used with advantage on such services as: St. Pancras-Manchester or Bradford, Manchester-South Wales or West of England, Birkenhead-Paddington, and cross-country trains.

Yours faithfully,
N. R. WALLEY



COMBINED BUFFET-DINING CAR

The Scrap Heap

STOCKHOLDER

In an envelope bearing a 2½d. stamp, a 69-year-old Warrington costing clerk has received from the British Transport Commission a cheque for 1d.—the half-yearly interest on 3 per cent. guaranteed stock in the old London & North Eastern Railway Co. Ltd.—From the "Daily Mail."

* * *

AN AMERICAN ON BRITISH RAILWAYS

Mr. W. H. Schmidt, Transportation Editor of our American contemporary, the *Railway Age*, visited England in July to study the railways of this country. Below are extracts from his first letter, dated July 17, to the *Railway Age*, published in the July 30 issue of that Journal:

"In general, station and train employees who deal with the public here are very much busier than their counterparts in the States; I must admit that they also appeared on the average somewhat more conscientious; anxious to keep conditions fluid; and are exceedingly courteous. These highly desirable qualities must be ingrained—an inheritance from pre-war and pre-nationalisation days—for one would think that the sellers' market which the British roads appear to have in passenger traffic, plus the 'let-down' from government seizure under a labour-dominated government, would, otherwise, have produced an attitude either of indifference or officious bullying (evident on the German State Railroad system both now and for many years past).

"The ordinary one-way fare here is high. It would provoke moans of anguish in the high-income United States; here, where average earnings are lower and where dependence upon railroad travel is very much greater, the rate would be murderous, except for the fact that almost nobody except American tourists rides on it. Britishers use roundtrip tickets, at the very most, and many use even cheaper bargain fares for specified trains, days or districts, which bring the mileage rate down to the American level, or below. But the ordinary people I've talked to here think the fares are very much higher than they can afford; they pay them only

because they have to get away for a holiday.

"At any rate, the nationalised lines appear to be merchandising themselves to the hilt—whether to fill trains or to keep in good with their new 'owners,' I don't know. I note on a station sign that the railroads as a whole now operate 1,400 scheduled, open excursions a month. There are scores of 'run about' ticket offers, by which the passengers pay 15 to 20 shillings (3 to 4 dollars) third class for the privilege of hopping on and off trains at will within a restricted resort area for a week. And, as always, the station travel posters are handsome and enticing. Our own roads have lots to learn along these lines.

"All the way over on the Canadian Pacific steamer, on which at least half the passengers were British, people kept volunteering their opinion of the nationalised British railroads. Without exception, they said the service is bad, the rate extortionate and the rolling stock and stations dilapidated. In each case, I asked them to consider the effect of the war. Yes, even then, they asserted, the condition of their railways is much worse than it ought to be. Then, in each case, I raised the question whether the roads would have renewed their vigour faster under private ownership. Almost everybody thought that business 'know-how,' unhampered by either politics or over-centralisation, would do a better job, faster. A few even brought up the necessity for competition between roads, which they said, was very strong and efficacious before amalgamation in 1924 and which constituted a 'fairly effective—though much weaker—spur to enterprise up to World War II. One old gentleman claimed that the 'wonderful' work of the Southern in building up a superb—and profitable—short-distance passenger traffic with electrification, line changes and frequent schedules, was all the proof he needed that private ownership is good for the public.

"As for me: I think the British are unduly hard on their railroads—nationalised or no. The carriers may be a lot worse than they used to be, but to an American just off the boat—they appear to be doing a pretty good job."

Docks & Inland Waterways Executive Flag



The royal blue flag of the Docks & Inland Waterways Executive has a gold-coloured steering wheel in the centre, with a horizontal bar; two gold lines run across the top and bottom of the flag

100 YEARS AGO

From THE RAILWAY TIMES, Sept. 1, 1849

THE half-yearly report of the Dublin and Drogheda has been for some days in the hands of the proprietors, previous to the half-yearly meeting, fixed to take place yesterday in Dublin. It is to be regretted that there is an absence of all allusion to the proposed amalgamation of the Irish northern lines. This question, which has already assumed considerable importance from the frequent discussions it has undergone, is, notwithstanding, wholly omitted in the Directors' report. On a late occasion we dwelt pretty fully upon the necessity which exists for a radical change in the present constitution of the Board of Directors, and the substitution of a larger share of intelligence to preside over the concern. But no visible approach has as yet been made to an alteration in the very imperfect character of the executive of this Company, and unless its amalgamation with the other Companies be effected, there are but slender hopes of its improvement, or the revival of public confidence in its favour.

* * *

THE QUIET TYPE

A 23-year-old instrument maker was fined £3 at Wallington for damaging a railway compartment. He wrote to the court saying that when he got into a train at Wallington he slammed the door and the glass broke, adding: "Something upset me and I hit two advertisement signs with my fists." A detective said: "He seems quite a reserved, quiet type of individual and he could give me no explanation of his conduct."—From "The Evening News."

* * *

TWO-HUNDREDTH APPRENTICE

On September 5, the 200th entrant will be enrolled at the Derby L.M.R. Locomotive Works Apprentice Training School. The entrant, Mr. John Cowley, will be following a family tradition, for his father is a coach finisher in Derby Carriage & Wagon Works and his grandfather, now 78, was also in the same works for 47 years. The Derby Locomotive Works Training School, a full-time day school for apprentice trainees, was opened in December, 1947, and gives instruction in both classroom and workshop.

* * *

Rush-Hour Rhymes—2

THE KNIT-WIT

She joins us in the rush-hour
(Men breathe a silent prayer),
She seats herself expansively,
O'er lapping everywhere.

She has a shopping basket,
Handbag, umbrella, too,
A well-developed "fore and aft"
And parcels not a few.

The carriage seethes with fury,
She heeds it not a whit,
She disembowels a handbag,
And then—she starts to knit.

She knits a nether garment
(It may be father's vest).
Not narrowly from north to south,
But widely, east to west.

And, when her wool gets tangled,
She gives it such a twitch,
Lands me a back-hand upper-cut
And drops another stitch!

What sets a knit-wit knitting,
In crowded company?
And why must this quaint sisterhood,
Cast all its purls at me?

A. B.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

CANADA

Refreshments on Trains

The Canadian National Railways and the Canadian Pacific Railway have applied for permission to sell spirits on the Montreal-Toronto main-line pool trains running in Ontario. The move to inaugurate this service has been taken after demands from the travelling public. The applications for dining lounge licences and lounge licences were heard in Toronto on August 22. Beer and wine are served on many services in Quebec Province at present, but so far there is no sale of spirits on Canadian railways.

ARGENTINA

Inauguration of Argentine-Bolivian Railway

The first part of the new international railway between Yacuiba, Argentina, and Santa Cruz de la Sierra and Sucre, Bolivia (see *The Railway Gazette* of April 2, 1948), was inaugurated on July 18 last in the presence of the Minister of Transport, the Bolivian Minister of Public Works & Communications, the Governor of the Province of Salta, and numerous Argentine and Bolivian officials. The section now opened to traffic is 101 km. long, between Yacuiba and Villa Montes, construction of which was begun in January, 1943.

War Memorial to B.A.P. Volunteers

The liquidators of the Buenos Ayres & Pacific Railway have presented to the Villa Devoto (Buenos Aires) Anglican church a

plaque with the names of 360 volunteers from the railway who served in the 1914-18 war and 72 in the 1939-45 war. The plaque was unveiled in the church hall on August 7 by Mr. J. S. Lees, deputising for the General Manager, Mr. F. B. Lowry, who was absent owing to illness.

Arrival of Skoda Locomotives

The first six Santa Fe type locomotives ordered by the General Belgrano (ex-State) Railway from the Skoda works in Czechoslovakia (see *The Railway Gazette* of November 14, 1947) have now arrived in Buenos Aires.

GREECE

Re-opening of Piraeus-Larissa Line

On July 10 a special train left Athens at 7.15 a.m. for Larissa, with representatives of the British Army and the American Mission to Greece. It was the first train to make the journey since October, 1944, after the Germans evacuated Greece and destroyed the main Salonica line of the State Railways.

The reconstruction included the rebuilding of Bralo Tunnel, badly damaged in three places, and the viaducts of Papadis, Assopos, Mandritza, and Gorgopotamos. The above work was carried out by the Corps of Engineers of the U.S. Army and the firm of Atkinson, Drake & Park, New York. The remainder of the large bridges, at km. 249 (four 20-metre spans), km. 244 (120-metre span), km. 248 (100-metre span), km. 282 (60-metre span), km. 314 (40-metre span), have been rebuilt by the State Railways

maintenance service, sometimes using Overall material and also the remainder of destroyed spans and new material.

With the exception of the sections Papouli-Katerini, on the Piraeus-Salonica line and Skydra-Agra, on the Salonica-Florina line, all the system of the State Railways is re-established, but operation is far below the pre-war standard because of the lack of rails, sleepers, and rolling stock, and the guerilla activity in Macedonia.

FRANCE

Rail-Road Co-ordination Scheme

The problem of the co-ordination between railway transport and road transport in France is reported to be nearing solution. The decrees covering the application of the new provisions and which are to be submitted to the Conseil d'Etat are reported ready, and M. Pineau, Minister of Public Works & Communications, is said to be putting the final touches to the draft of the general law comprising the modalities of the co-ordination. The law is said to make allowance to some extent for reasonable claims which have been put forward by the road interests. M. Pineau is expected to address the Council of Ministers on the subject early this month, and the new provisions will become operative early in October, it is generally believed. They will entail the closing of numerous railway lines of secondary importance.

GERMANY

Perishables Traffic at Munich

According to recent reports Munich is to regain its pre-war importance as a perishables railway traffic centre. It formerly handled transhipment and distribution mainly of fruit and fresh vegetables

Restoring Communications in Greece



Train crossing reconstructed bridge at km. 248 on the main line of the Hellenic State Railways, re-opened in July between Piraeus and Larissa

exported from the Balkans and Italy. The facilities at Munich main goods station were greatly extended when it was modernised and enlarged between 1924 and 1927.

The plant and the station itself are stated to have suffered little during the war, and to be in full working order again. Sidings now total 32,800 ft. in addition to loading tracks capable of receiving simultaneously 1,000 wagons. The turnover increased from 4,000 wagons in 1947 to 15,000 wagons in 1948, and reached 14,200 wagons in the first half of 1949. Fresh vegetables and fruit are distributed throughout western Germany, and only one third of the imported total remains in southern Bavaria. It is intended to expand the existing facilities by adding a new customs shed, and four new market halls including also an ice-producing plant. The expenditure has been put at Deutsche Mark 5,000,000.

Electrification in Bavaria

The present electrification plans envisage the conversion of the following four main lines in Bavaria: Munich-Ingolstadt-Treuchtlingen (connecting at Treuchtlingen with the electrified Augsburg-Nuremberg main line, 85 route-miles); Treuchtlingen-Ansbach-Würzburg, 87·2 route-miles; Frankfurt-am-Main — Aschaffenburg — Würzburg-Nuremberg, 147·6 route-miles; Nuremberg-Regensburg, 62·4 route-miles.

Publications Received

The Mechanics of Engineering Soils. By P. Leonard Capper and W. Fisher Cassie, with a foreword by L. Scott White. Published by E. & F. N. Spon, Limited, 15, Bedford Street, Strand, W.C.2, 9 in. x 6 in. 270 pp. Illustrated. Price 21s.—Until comparatively recently problems of foundation stability and soil deformation have depended mainly for their solution on practical experience and empirical rules. More recently it has become increasingly realised that their economical solution depends on a close study of the mechanical properties of soils, and the work under review sets out to summarise the results of these investigations and explain the identification and testing of soils. Instead of propounding new theories, the authors are content to clarify established principles partly with the aid of copious diagrams. Earth pressures and the stability of slopes, permeability and the effects of moisture on various soils will interest our readers, as will also compaction, estimation of settlement under static and moving loads and foundation problems—all dealt with ably and clearly in this valuable work.

Railway & Other Steamers. By C. L. D. Duckworth and G. E. Langmuir. Glasgow: Shipping Histories Limited, 62, Vincent Street, C.2. 8½ in. x 5½ in. x 1 in. 340 pp. Illustrated. Price 30s. net.—All vessels owned by British and Irish railway companies since the 1840s are enumerated, together with the fleets of some of the associated undertakings which operate cross-Channel and North Sea services in conjunction with British railways. The latter, perhaps, are hard to define, as, for example, the Bergen Steamship Company's Bergen-Newcastle fleet, which operates a "Continental" service in conjunction with the Eastern and North Eastern Regions of British Railways. The widespread sea and inland water enterprises of many railway companies even 80 years ago are remarkable. From early days, regular travellers via Dover and Holyhead had their favourite vessels, though, as in the case of ocean liners, it is not easy

On the Nuremberg-Regensburg line the section from Regensburg main station to Regensburg-Prüfening, 2·3 miles long, has already been electrified. In addition to its frequent suburban services it carries also the traffic of the Regensburg-Ingolstadt main line, which branches at Regensburg-Prüfening. Regensburg is already served by an electric main line from Munich via Landshut.

LUXEMBOURG

National Railways Financial Results

The working receipts of the Société Nationale des Chemins de Fer Luxembourgeois for the three months ended March 31, 1949, amounted to fr. 240,088,648, exceeding the working expenditure, at fr. 219,587,413, by fr. 20,501,235. Despite this improvement, the financial outlook for the current year does not seem favourable, and a working deficit of about fr. 36,000,000 is envisaged for the end of the year. The possibility of an increase in fares and rates at an early date has been discussed.

BELGIUM

National Railways Financial Results

The working receipts of the National Railways for the first six months of the current year totalled Belgian fr.

4,806,260,000, as against fr. 5,001,450,000 for the same period in 1948. After deducting the working expenditure there was a working deficit of fr. 414,370,000, contrasting with the working deficit of fr. 15,200,000 for the comparable months last year. The working ratio was 108·62 per cent. by the end of June last as compared with 100·30 per cent. for the preceding comparable period.

JUGOSLAVIA

Wine Tank Wagon Built

The first wine tank wagons to be built in the country, a batch of 30 units, were recently completed at the State Railways workshops at Subotica, on the Belgrade-Budapest main line, near the Hungarian frontier. Seventy more are to be completed before the autumn. The wagons are to be formed into four block trains having a capacity of about 66,085 gal. each for the conveyance of wine produced in Serbia to the storage cellars in the Voivodina region lying to the north of Belgrade.

All wagons are to be fitted with electric pumps for the speedy filling and emptying of the tanks. Special covered wagons with two large vats each are to be built for the export of the wine.

among vessels which have been nearly always the finest of their age when built, to see exactly why ships became favourites, such as the *Mabel Grace* of the S.E.C.R., the *Antwerp* and her sister-ships of the G.E.R. plying between Harwich and Antwerp, and certain *Bataviers* of the Batavier Line between London and Rotterdam. The authors deplore the lack of publicity given to railway steamers; indeed, few except regular travellers may realise the high level of craftsmanship reached in the design and building of these less spectacular of British ships, or of seamanship in their operation.

Flying Scotsman. By Alan Anderson. Leicester: The Brockhampton Press Limited. 2·5, Corridor Chambers, Market Place. 6½ in. x 5½ in. 64 pp. Illustrated. Price 3s. 6d.—This book is heralded as the first of a series describing famous train journeys. Although intended primarily for the younger enthusiast, the popular presentation of points of technical and scenic interest encountered on the journey from Kings Cross to Edinburgh also will appeal to older readers. The foreword to the book is by Mr. C. K. Bird, Chief Regional Officer of the Eastern Region, and the text is attractively illustrated by the author's own drawings.

Modern Railroad Structures. By Chas. P. Disney and Robt. F. Legget. London: McGraw-Hill Publishing Co. Ltd., Aldwych House, W.C.2, and New York. 10 in. x 7½ in. 213 pp. Illustrated. Price 30s.—After over 40 years' railway service, latterly as Bridge Engineer, Central Region, Canadian National Railways, Mr. Disney retired in 1946. Mr. Legget is Director of Building Research of the National Research Council of Canada and was previously Associate Professor of Civil Engineering at Toronto University. Ostensibly written by these two experienced authors to stimulate popular interest in the civil engineering side of railway working, this work is actually a fully-technical description of modern practice in bridging, structural concrete and other engineering works. The application of soil mechanics

to railway earthworks and foundations is also dealt with, excellent diagrams illustrating soil slope failures. Steel-pile bridges, with numerous examples described and illustrated, are allotted a chapter, as also are rigid-frame concrete bridges. Pre-cast concrete bridges and other structures are next described with examples of British practice, including an L.M.S.R. round house and London Transport station and slab-type bridges. Solid-deck bridges and track details, formation grouting and turntable design follow, and finally concrete constructional and repair methods find a place in this fully illustrated and excellently-produced volume.

British Railways' Standard Liveries. Published and distributed by A. W. Hambling & Company, 10, Cecil Court, Charing Cross Road, London, W.C.2. 11 in. x 8½ in. 8 pp. Paper covers. Price 1s. 6d., postage 2d. The Railway Executive has recently announced the details of the standard liveries to be used for locomotives, rolling stock, road vehicles, etc. The whole of the information available is here collected, edited, and arranged by Mr. G. H. Lake, and the contents of the brochure have been reprinted from No. 3 (New Series) of the *Railway Pictorial & Locomotive Review*. The illustrations include coloured reproductions of the liveries adopted for locomotives and coaches.

Vulcan Locomotives and Vulcan Diesel and Electric Locomotives.—The Vulcan Foundry Limited, Newton-le-Willows, Lancashire, has produced two booklets, one, with orange cover, illustrating and giving principal dimensions of steam locomotives built by the firm for Britain and overseas, the other, with blue cover, dealing similarly with electric and diesel locomotives built in conjunction with The English Electric Co. Ltd., the Dreyfus Car Company, and Metropolitan Vickers Electrical Co. Ltd. The text appears in Spanish, Portuguese, and Afrikaans, and the booklets are of a size to fit comfortably in the pocket. The illustrations and type are particularly clear.

London, Tilbury & Southend Railway

An epic of commercial enterprise
(From a Correspondent)

A PART from the unfortunate travellers being deserving of commiseration upon the operation of their line being transferred to the cruel mercies of the Eastern Region, it is noteworthy that such a step brings to a featureless end a railway drama of former years.

The conception of the London, Tilbury & Southend Railway was a bold and almost hopeless venture in the 1850s when Southend-on-Sea, as now known, was but a small hamlet at the south end of its parent town of Prittlewell—hence the present name of the colossus of bricks and mortar embracing

via Hornchurch in 1888, thus avoiding the triangular journey via Tilbury, efforts were made to popularise the terminal territory of the Thames estuary.

The basic fare was fixed at the very low level of 1d. a mile, and the season ticket from London to Southend 65s. for 3 months. In the 1890s this policy had so stimulated the development of the four residential areas of Leigh, Westcliff, Southend, and Southchurch, that they became dormitories for city workers. The running time of the fast trains between London and Westcliff and London and Southend was 47 and 50 min. respectively,

Companies, however, continued to work in very close liaison until, to the chagrin of the celebrated late Lord Claud Hamilton, the Midland Company obtained parliamentary powers in 1912 to purchase outright the L.T. & S.R. undertaking. This triumph of the Midland company within the ambit of the Great Eastern territory was too much for his lordship, and it was the direct cause of the immediate retirement of the then general manager of the company and the introduction from America of the late Sir Henry Thornton to the British railway world, which at the time constituted a sensation of the first order.

The Great Eastern services were generous; non-stop trains covered the journey in 60 minutes despite the extra 10 miles of route. From the October, 1911, issue of *The Railway Magazine* we learn

Offices—Fenchurch Street Station, E.C.

Managing Director, A. L. Stride.

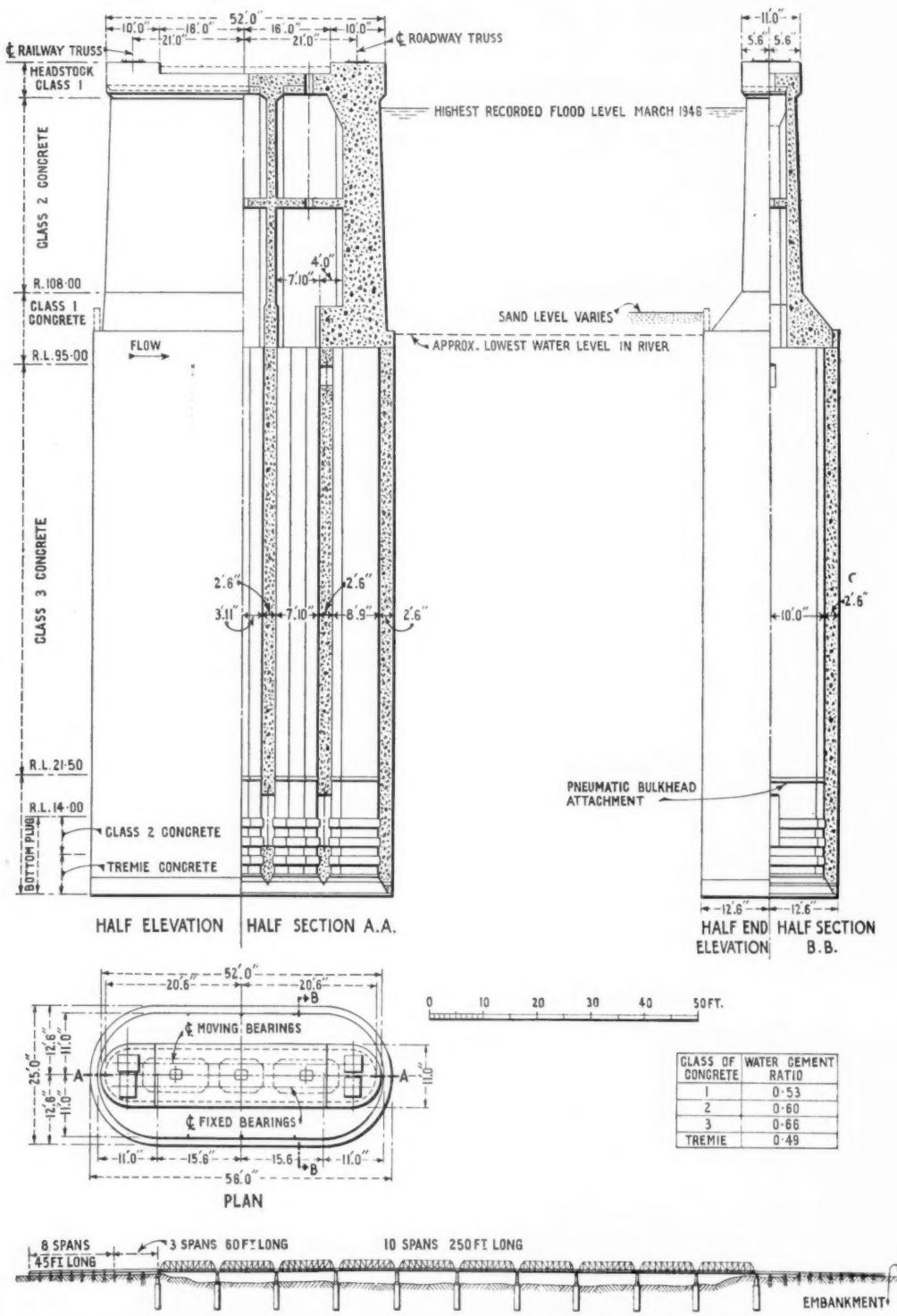
Sec. H. Cecil Newton.

Man., B. Bullock.

Goods Man., E. Chalk.

LONDON, BARKING, UPMINSTER, TILBURY, GRAVESEND, SOUTHEND, and SHOEBURYNESS.—London, Tilbury, and Southend.		Week Days— <i>continued</i>		London, Barking, Tilbury, and Southend.	
Down.		aft	aft	aft	aft
Victoria	... dep.	1 30	1 35	1 40	1 45
Charing Cross	1 30	1 35	1 40	1 45	1 50
FENCHURCH ST. dep.	1 48 2 6	2 15 2 26	2 25	2 40 2 53	2 45
Stepney	1 54 2 12	2 21 2 32	2 31	2 46 2 50	2 47
Burdett Road	1 56	2 23	2 34	2 48 2 53	2 51
Bromley	2 0		2 35	3 16	3 33
West Ham				3 16	3 47
Plaistow	arr.			3 19	3 47
Plaistow	2 4		2 44	2 56 3 7	3 30
Upton Park	2 7		2 47	2 59 3 10	3 33
ST. PANCRAS. dep.					
Marylebone	1 26	1 17	1 25	1 35	1 40
King's Cross (Mt.)	1 25	1 17	1 25	1 35	1 40
Camden Road	1 25	1 17	1 25	1 35	1 40
Kentish Town	1 25	1 17	1 25	1 35	1 40
Junction Road	1 12	1 37	1 25	1 35	1 40
Upper Holloway	1 14	1 37	1 25	1 35	1 40
Church Hill	1 14	1 37	1 25	1 35	1 40
South Tottenham	1 26	1 39	1 25	1 35	1 40
Black Horse Road	1 30	1 55	1 25	1 35	1 40
Walthamstow	1 33	1 58	1 25	1 35	1 40
Leyton	1 36	2 2	1 25	1 35	1 40
Waltham Park	1 39	2 2	1 25	1 35	1 40
Woodgrange Park	1 45	2 2	1 25	1 35	1 40
East Ham 631	arr. 1 50		2 44 2 57	3 26 3 56	4 56
East Ham 631	2 11		2 34	3 03 3 14	4 50
St. LIVERPOOL ST. dep.					
Barking	2 15 2 26	2 38 2 44	2 55	3 03 3 14	4 55
Dagenham	2 15	2 26	2 55	3 03 3 14	4 55
Hornchurch	2 15	2 26	2 55	3 03 3 14	4 55
Upminster. dep.					
Ockendon	2 47		2 58	3 03 3 14	4 55
East Horndon			2 58	3 03 3 14	4 55
Landon			2 58	3 03 3 14	4 55
Dagenham Dock	2 22		3 14 3 25	4 55	5 56
Rainham	2 28		3 20 3 31	5 7	6 28
Gravesend	2 25		3 27 3 36	5 14	6 28
Tilbury Docks	2 49		3 28 3 36	5 28	6 17
Tilbury	arr. 2 52		3 28 3 44 3 53	5 36 5 44	6 28
Gravesend. dep.			3 28 3 54 4 3	5 41 5 53	6 28
(Town Pier)	1 arr. 2 43		3 28 3 54 4 3	5 41 5 53	6 28
Tilbury	dep. 2 56		4 29	6 18	6 28
Low Street	3 2		4 29	6 24	6 28
Southend-le-Hope			4 29	6 31	6 28
Pitsea	3 18		4 29	6 36	6 28
Benfleet			4 29	6 45	6 28
Leigh-on-Sea	2 57		4 29	6 48	6 28
Westcliff-on-Sea	3 2		4 29	6 50	6 28
Southend-on-Sea	3 2		4 29	6 52	6 28
Shoeburyness	arr. 3 16		4 29	6 54	6 28
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			4 29	6 86	6 28
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			4 29	6 90	6 28
			4 29	6 92	6 28
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			4 29	7 04	6 28
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			4 29	10 40	6 28
			4 29	10 42	6 28
			4 29	10 44	6 28

New Rail and Road Bridge, Burdekin River, Northern Queensland



General arrangement of a typical pier and of the completed bridge

New Rail and Road Bridge, Burdekin River, Northern Queensland

A $\frac{3}{4}$ -mile-long structure, with ten 250-ft. main spans and r.c. caissons sunk 100 ft. into the river bed

ON the Bowen-Townsville section of the North Coast Railway in Queensland, the Burdekin River is crossed between Home Hill and Ayr. The existing bridge is a low-level structure consisting of short spans, carried on wooden piles, with the result that it not only becomes submerged during floods, but also is in constant danger of being breached by debris piling up against it.

The highway running parallel to the railway is also provided with a low-level bridge, spanning only the dry-weather channel, and so it is in even worse plight during floods, and the average period of interruption of traffic at this point is 17 days for rail and 40 days for road transport annually. Meanwhile, the important production area of North Queensland, and, in fact the whole of Queensland served by the railway to the Mt. Isa lead-zinc-copper mine and beyond—an area of some 220,000 sq. miles—is cut off from the south.

It is true that there is the roundabout alternative rail route further west via Longreach, Winton, and Hughenden, but its

capacity is less than that of the North Coast line, and its bridges are also liable to become submerged.

In view of this serious and constant threat to communications, the Queensland Government decided to send two senior engineers to India in 1946 to study the problem of scour at bridges over rivers with sandy beds like the Burdekin. They also obtained information regarding foundations under these conditions. As a result of this deputation, it was decided to construct a high-level combined rail and road bridge over the Burdekin, with a minimum headway of 10 ft. above the highest known flood level. This level is 41 ft. 6 in. above average dry-weather water level.

Preliminary Information

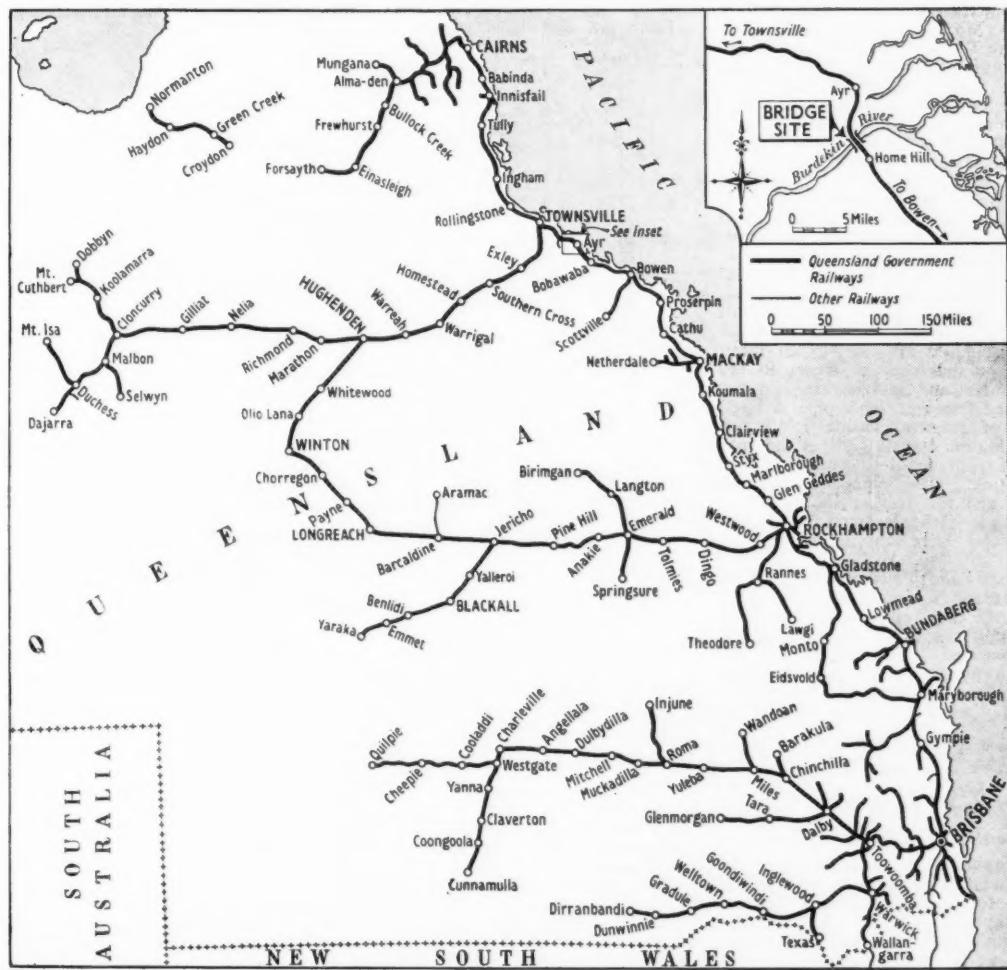
The Burdekin catchment area above the bridge site is about 53,000 sq. miles in extent, and contains extensive stretches of granite country; its bed is largely of quartz sand. It is estimated that in abnormal flood the discharge would be 1,300,000

cu. ft. per sec., of which 915,000 cu. ft. per sec. would flow in the main channel, giving a flood level 46 ft. above normal dry-weather level and a velocity of 10 ft. per sec.

The bridge site is only 11 miles from the sea, but the river water is fresh and not salt. The channel is about half a mile wide and the banks are several feet above the surrounding country; even so they are topped in high flood. The depth of sand forming the river bed exceeds 150 ft.

To obtain preliminary information regarding the sand bed, its supporting power, and the practicability of sinking caissons through it, a test reinforced concrete cylinder having an internal diameter of 4 ft. and 6-in. walls was sunk 56 ft. into the river bed; loading tests were then carried out on the material encountered. The coefficient of internal friction of the sand was found to be not less than tan. 30 deg. (0.58). No quicksand was found, and an 11-in. dia. loading block carried, at 56 ft. depth, $15\frac{1}{2}$ tons per sq. ft. A skin friction on concrete of about $2\frac{1}{2}$ cwt. per sq. ft. was obtained, and a cutting edge resistance of $5\frac{1}{2}$ tons per sq. ft.

The weight of the saturated sand in water was found to be not less than 60 lb. per cu. ft., and the mean particle size ranged from 0.79- to 13-mm. dia. During one of the highest recorded floods, in March, 1946,



Railways of Queensland, with inset showing the site of the recently constructed combined road and rail high-level bridge over the Burdekin River

this test cylinder did not move. It was sealed on top prior to the flood and no internal sand "blow" occurred.

The General Design

The final design, embodied in an Order-in-Council, included the following features: a side-by-side rail-cum-road bridge, to be built some 5 ch. upstream from the existing low-level railway bridge, includes ten steel through-truss main spans, each 250 ft. long, supported by a reinforced concrete sub-structure consisting of two abutments and nine piers founded on caissons; similar approaches on each bank, consisting of three 60-ft. and eight 45-ft. deck-type steel spans supported by trestle piers, are provided to pass the flood spill. As well as a 22-ft. roadway, a single 3-ft. 6-in. gauge track will be carried, but the through trusses are spaced at 42-ft. centres, so that the gauge subsequently may be widened to

4 ft. 8½ in.; the spans are all designed for standard-gauge E.60 Cooper's loading plus the highest expected highway loads. The caissons are designed to be sunk 100 ft. into the river bed.

The overall length of the new bridge will thus be about ½-mile, of which half a mile will consist of the truss spans over the main channel. The caissons carrying the Ayr abutment and the nine piers are each 56 ft. × 25 ft. in cross section, and that under the Home Hill abutment is 56 ft. × 18 ft. The general arrangement of the piers, showing the lowest and highest recorded water levels, is illustrated; the abutment caissons are very similar.

It may be noted that clear cover over all reinforcement is 2 in. in the pier shaft—except at the solid ends, where it is 4 in.—and 3 in. in the caisson. The pneumatic bulkhead attachments provide for differences in pressure of ± 13 lb. per sq. in.

The reinforced concrete trestle piers for the approach spans will be founded on driven concrete piles; all the spans will be plate girders except under the roadway of the 45-ft. spans, where steel joists will be used. The approach embankments will carry the road and railway side by side, bifurcation not taking place until natural ground level is almost reached.

If sufficient steel is available, it is hoped to begin on the superstructure towards the end of 1950. Of the nine caissons, six in the river bed are completed and the remaining three are to be completed by June, 1950. The first main truss span will be erected on falsework, and the remainder will be cantilevered out progressively as the piers are completed. The estimated cost is £1,600,000, according to our Australian contemporary, *The Commonwealth Engineer*, to whom we are indebted for the drawings reproduced.

A Novel Expansion-Joint

By E. C. Poultney, O.B.E., M.I.Loco.E.

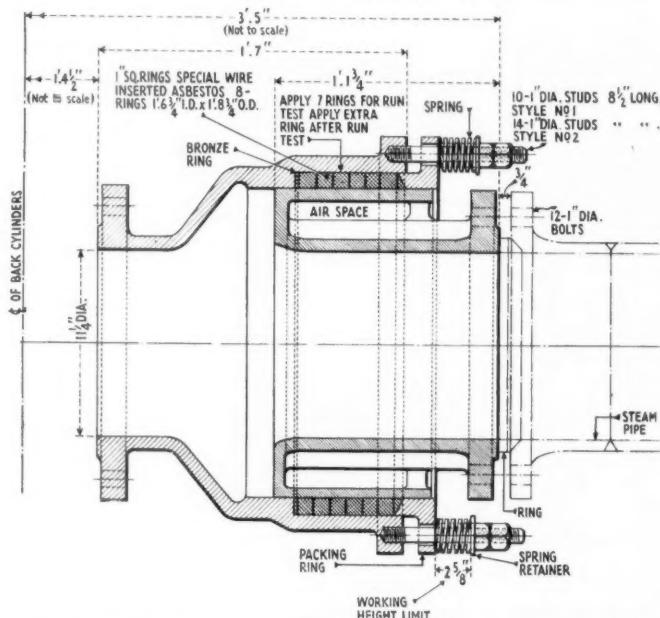
THE accompanying drawing, for which the writer is indebted to M. J. Donovan, Mechanical Engineer, Lima Locomotive Works Division, Lima Hamilton Corporation, illustrates a novel and interesting form of patented expansion-joint, used for the simple-expansion Mallet type locomotives built for the Chesapeake & Ohio Railway by Lima, and described in *The Railway Gazette* for March 19, 1949.

There are three of these expansion joints for each engine, one in each main steam pipe on both sides of the engine, taking steam from the two branch pipes from the superheater header in the smokebox, to the rear engine cylinders. At this point the steam supply is divided, half going to the cylinders and the remainder passing through a Y pipe to an intermediate pipe that supplies steam to the front cylinders and is supported on the front engine framing. This pipe is fitted with one of these expansion joints and has, in addition, a ball joint at the rear cylinders to provide the necessary articulation feature. The pipes between the smokebox and the rear engine cylinders, therefore, carry the steam for all four cylinders and have an inside dia. of 11½ in.

These expansion joints are made-up of two steel castings, one of which is the main body casting and the other the sliding portion, the special feature of which is the provision of an air-space for the purpose of protecting the packing from the temperature of the superheated steam. The packing used is asbestos, reinforced

with wire, and is held under constant pressure by a spring-loaded gland.

From the drawing, it will be seen that



Patented expansion-joint for Chesapeake & Ohio simple-expansion Mallet locomotives

London, Tilbury & Southend Railway

(Concluded from page 267)

ordinary capital. The management of the company was an outstanding example of going out for and creating new business and development, which is a mentality which ought to be cultivated seriously by transport authorities today, instead of their claiming against force of circumstances and giving in. After all, such adverse circumstances arise to be overcome by business acumen, and they should

be tackled with energy and enterprise. It is to be regretted that the former enterprising policy of the L.T. & S.R. was not continued by its successors. If any railway route should have been electrified to cope with growing traffic, it was that from Fenchurch Street (and Liverpool Street) to Southend. As was stated by the pioneer of main-line electrification in this country, the late Sir Philip Dawson, by this omission the two companies, the L.M.S.R. and L.N.E.R., had missed a gold mine.

SALE OF OVERSEAS STANDARDS IN U.K.—The British Standards Institution acts as the agent in the United Kingdom of all overseas national standards organisations. At present, when every possible avenue for export is being explored, many concerns write direct to standards organisations overseas, only to be referred to the B.S.I. Time will be saved by applying direct to the British Standards Institution, 24/28, Victoria Street, London, S.W.1, for all information regarding standards, both home and overseas.

Comparative Coal and Water Rates during the 1948 Locomotive Exchanges

(See editorial notes on page 259)

COAL CONSUMPTION AND COMPARATIVE PERCENTAGES

Region	Locomotive class	Lb. of coal per hr.	1 Eastern, "A.4"	2 Midland, "Duchess"	3 Eastern, "O.1"	4 L. Midland, "6.P."	5 Western, "28 X X"	6 Midland, "8.F."	7 Ex W.D.	8 Midland, "5."	9 Western, "3.57"	10 Eastern, "B.1"	11 Southern, "M.N."	12 W.D.	13 Western, "3.94"	14 Southern, "W.C'ty"	
Eastern, "A.4"	4-6-2	—	1-96	10-15	10-46	11-77	15-05	15-70	16-68	17-35	17-66	23-25	28-80	34-38	
L. Midland, "Duchess"	4-6-2	1-93	—	8-02	8-34	9-62	12-83	13-46	14-45	15-08	15-40	20-87	26-31	31-80	
Eastern, "O.1"	2-8-0	9-18	7-41	—	0-30	1-49	4-45	5-04	5-93	6-53	6-83	11-87	16-92	21-90	
L. Midland, "6.P."	4-6-0	9-47	7-68	0-30	—	1-19	4-14	4-73	5-62	6-22	6-51	11-55	16-58	21-60	
Western, "28 X X"	2-8-0	10-54	8-77	1-46	1-17	—	2-93	3-51	4-38	4-98	5-26	10-25	15-22	20-20	
L. Midland, "8.F."	2-8-0	13-07	11-37	4-26	3-97	2-84	—	—	0-57	1-42	1-99	2-27	7-10	11-93	16-76
Ex W.D.	2-10-0	13-07	11-37	4-26	3-97	2-84	—	—	0-57	1-42	1-99	2-27	7-10	11-93	16-76
L. Midland, "5"	4-6-0	13-57	11-87	4-80	4-52	3-39	0-56	0-56	—	0-85	1-42	1-70	6-50	11-30	16-10
Western, "King"	4-6-0	14-30	12-60	5-59	5-32	4-20	1-40	0-84	—	0-56	0-84	5-60	10-37	15-15	—
Eastern, "B.1"	4-6-0	14-76	13-10	6-13	5-85	4-73	1-95	1-40	0-56	—	0-28	5-02	9-75	14-50	—
Southern, "Merchant Navy"	4-6-2	15-00	13-35	6-38	6-11	4-99	2-22	2-22	1-67	0-83	0-28	—	4-73	9-43	14-18
Ex W.D.	2-8-0	16-85	17-25	10-61	10-35	9-28	6-63	6-10	5-31	4-78	4-52	—	4-52	9-02	—
Western, "Hall"	4-6-0	22-35	20-85	14-48	14-23	13-20	10-67	10-67	9-87	9-38	8-88	8-63	4-32	—	4-32
Southern, "West Country"	4-6-2	25-57	24-10	18-05	17-79	16-82	14-37	14-37	13-89	13-16	12-67	12-43	8-28	4-14	—

WATER CONSUMPTION AND COMPARATIVE PERCENTAGES

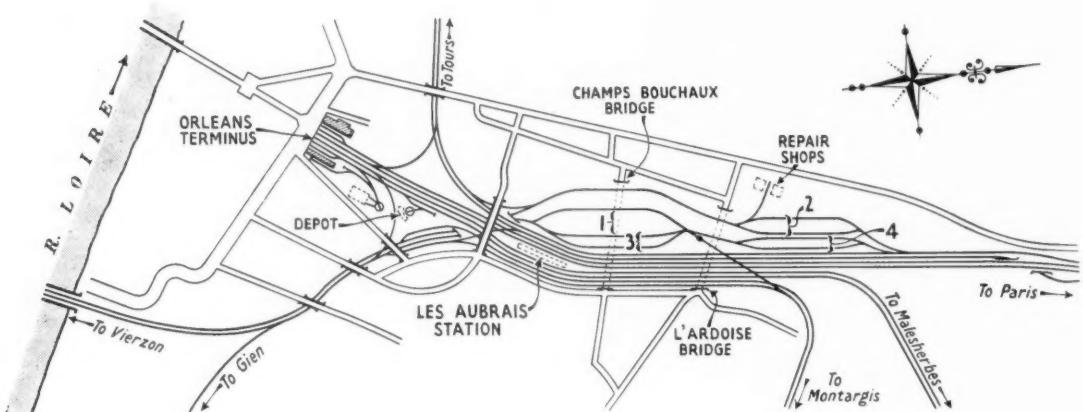
Region	Locomotive class	Lb. of water per hr.	1 Eastern, "A.4"	2 Eastern, "O.1"	3 Eastern, "O.1"	4 L. Midland, "6.P."	5 Western, "28 X X"	6 Midland, "8.F."	7 Ex W.D.	8 Midland, "5."	9 Ex W.D.	10 Western, "King"	11 Southern, "M.N."	12 W.D.	13 Western, "3.94"	14 Southern, "W.C'ty"	
Eastern, "A.4"	4-6-2	—	5-79	6-13	10-22	11-36	12-10	13-66	15-11	15-36	17-52	18-25	23-30	34-25	
Eastern, "O.1"	2-8-0	5-48	—	0-31	4-16	5-24	5-94	7-42	8-78	9-02	11-08	11-74	16-50	18-26	
L. Midland, "6.P."	4-6-0	5-77	0-31	—	3-84	4-92	5-62	7-08	8-44	8-68	10-74	11-40	16-13	17-90	
Western, "28 X X"	2-8-0	9-25	3-99	3-70	—	1-05	1-73	3-16	4-48	4-70	6-68	7-33	11-93	13-66	
L. Midland, "Duchess"	4-6-2	10-20	4-98	4-68	1-03	—	0-67	2-07	3-36	3-58	5-54	6-17	10-68	12-38	
L. Midland, "8.F."	2-8-0	10-80	5-62	5-32	1-69	0-66	—	1-40	2-68	2-90	4-84	5-47	9-94	11-64	
Western, "King"	4-6-0	12-03	6-90	6-62	3-04	2-03	1-38	—	1-27	1-49	3-40	4-02	8-43	10-10	
Ex W.D.	2-8-0	15-38	10-46	10-19	6-75	5-78	5-16	3-84	2-43	0-59	—	4-24	5-84	13-55	
Western, "Hall"	4-6-0	18-88	14-16	13-90	10-59	9-64	9-04	7-78	6-60	4-63	4-07	—	1-54	8-90	—
Southern, "Merchant Navy"	4-6-2	15-45	15-17	11-93	11-93	10-42	9-16	8-02	7-83	6-08	5-52	1-53	—	7-25	—
Southern, "West Country"	4-6-2	25-50	21-20	20-92	17-90	17-08	16-49	15-35	14-25	14-08	12-44	11-93	8-17	6-77	—

Method of use: Select locomotive in VERTICAL columns 1-14. Find locomotive for comparison in LEFT hand column. The figure in VERTICAL column on SAME line as the comparison locomotive is the percentage by which the locomotive in columns 1-14 differs from locomotive in LEFT hand column. **BOLD** figures are INCREASES. **LIGHT** figures are DECREASES.

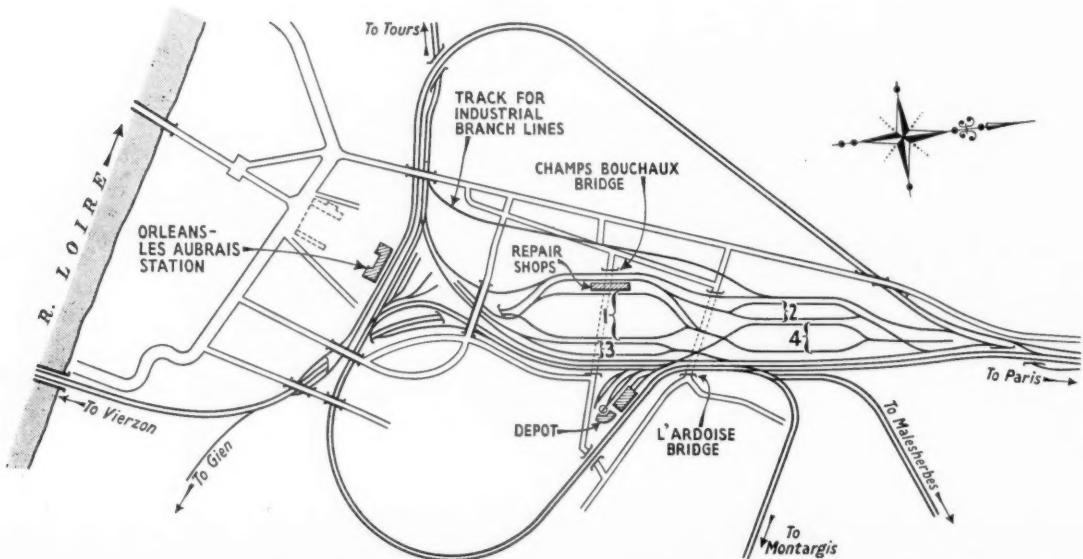
Railway Reconstruction at Orleans



Layout at Orleans as in 1939, necessitating reversal of through trains at Orleans terminus or shuttle connections from Les Aubrais junction station



Existing layout, showing modifications to 1939 plan as a result of war damage and provision for new layout shown below



Approved new layout, which, by means of two wide loops, will give Orleans a central through station

Railway Reconstruction at Orleans

Provision of a new through station and improvement of the marshalling yards will be linked with important town-planning projects



Temporary station building at *Les Aubrais-Orléans*

RECONSTRUCTION of the devastated railway centre at Orleans and Les Aubrais, the junction of the two main lines of the South-Western Region, *via* Vierzon to Toulouse, and *via* Tours to Bordeaux, was one of the great tasks undertaken by the French National Railways immediately after the war. In addition to urgent provisional work required for rapidly restoring vital freight and passenger transport between Paris and the country south of the Loire, comprehensive long-term reorganisation and improvement plans were prepared. These plans involved co-operation with the Ministry of Reconstruction & Town Planning for rebuilding the ruined parts of the city.

The Orleans Station, built in 1843 near the centre of the city, remained a terminus after the opening of the lines to Bordeaux and Toulouse in 1846 and 1847. The junction at Les Aubrais, $1\frac{1}{2}$ miles from the terminus, then became an important station for passenger and goods traffic. Passenger traffic between the junction and the terminus was maintained by multiple-unit electric shuttle services. This proved a great inconvenience to the inhabitants and the numerous visitors to the historic city.

The plans provide for a new station, Orleans-Les Aubrais, to replace both the junction station and the terminus. The new station will be built at right angles to the existing tracks about 850 yd. from the present terminus. An eastern loop will bring the trains for Tours and beyond through the new station and a western loop those for Vierzon. The shuttle services and the present provisional station structure at Les Aubrais will not be required, and the terminus will be demolished.

Les Aubrais had become a great marshalling yard before the first world war and as such was the target during the second world war for heavy bombing by the Allied air forces on May 20 and 25, June 3 and 10, and July 5, 1944. Great havoc was wrought. At Les Aubrais 38 miles of tracks, 234 permanent way fixtures, electric power plant, hydraulic installations, and other railway structures

were completely destroyed. At the Orleans terminus the destruction was just as complete. Railway workshops, the locomotive depot, train sheds, stores, electric substations, goods warehouses, nine miles of tracks, and 68 permanent way fixtures were rendered practically useless.

Reversal of Through Trains Obviated

After demolition of the terminus, trains from Paris to Tours or Paris to Vierzon no longer will run in and out, but will pass through the new station on



Train working *Les Aubrais-Orléans* shuttle service

the eastern or western double-track loops provided for that purpose, and the shuttle services will no longer be needed. The new loop lines will be carried over or under the city roads and railways, thus avoiding conflict of Paris-Tours and Paris-Vierzon traffic. The new station then may be connected by a broad avenue with the Place du Martroi, where the statue of Joan of Arc stands.

Clearance of the space now occupied

by the terminus will release 50 acres of land. The S.N.C.F. will cede this land to the City of Orleans free of cost. The City will retain $12\frac{1}{2}$ acres for public spaces, avenues, and squares, and sell the remaining $37\frac{1}{2}$ acres. The Ministry of Reconstruction & Town Planning will acquire $5\frac{1}{2}$ acres to build houses for families whose homes were destroyed.

An industrial quarter, grouping the various industries of Orleans, will be constructed in the town-planning scheme. It will be situated to the west of the town, alongside the marshalling yard. A goods line, connected to the two ends of the yard, is to run through the quarter, giving easy access to branch sidings for the factories. This industrial quarter will be under the control of the Orleans Chamber of Commerce.

Close to the new passenger station at Orleans-Les Aubrais, goods sheds and sidings, and yards for the reception and formation of "accelerated" goods trains are to be constructed. The marshalling yard is to remain on its present site. Improvements include: the lengthening of the shunting sidings to 875 yd. and of the reception and make-up tracks to 820 yd.; on either side of the shunting sidings separate groups of up and down relay tracks, the up tracks being more numerous than the down group; direct departures from the shunting yard towards Vierzon; construction of an avoiding line allowing up trains from Tours to Vierzon to run without crossing down traffic.

Yard for Down Trains

The marshalling yard, in fact, will be in principle a "down track" one, that is, only trains coming from Paris or beyond will be shunted there, the up trains utilising the up relay sidings and the shunting being done on arrival in the "up" sidings at Juvisy, near Paris. This specialisation of shunting conforms to a general plan intended to improve operating conditions in the whole S.N.C.F. system. The new

repair and upkeep shops are to be built on the west side of the yard. The new depot for steam and electric locomotives will be situated on the east side.

The work will be spread over a long period. The plan raises many important problems connected with town planning, the acquisition and exchange of real estate, and rehousing, in addition to the extensive railway reconstruction proper.

(Continued on page 280)

Railway Reconstruction at Orleans



Devastated marshalling yard at Les Aubrais



Rebuilt bridge across the Loire at Orleans, looking towards Vierzon

RAILWAY NEWS SECTION

PERSONAL

Mr. H. F. Sanderson, who was appointed Principal of the L.N.E.R. All-Line Commercial School at Faverdale Hall, Darlington, when it was inaugurated by that company in 1945, has now been appointed Assistant Commercial Superintendent, North Eastern Region, British Railways.

Mr. W. McKie, Divisional Storekeeper, Glasgow, Scottish Region, British Railways, has been appointed Assistant Stores Officer for the Region.

Mr. G. A. Gribble, Cartage Working Assistant to the Chief Commercial Superintendent, London Midland Region, British Railways, is retiring, after 46 years service.

Monsieur Ehrhardt, Inspector-General of Finances, has been appointed head of the mission of financial control of the French National Railways.

SOUTH AFRICAN RAILWAYS

Mr. C. N. L. Bowen, Chief Superintendent (Financial), has retired.

Mr. J. W. Wille, Locomotive Superintendent, Cape Midland System, has been appointed Mechanical Engineer, East London.

Mr. Tom Brown, Managing Director of Sheepbridge Stokes Centrifugal Castings Co. Ltd., has been appointed to the board of Sheepbridge Engineering Limited. Before taking over as Managing Director of Sheepbridge Stokes Centrifugal Castings Company, Mr. Brown was Chief Engineer of Morris Motors Limited, Engines Branch, Coventry.

Mr. L. P. Lord, Chairman & Managing Director of the Austin Motor Co. Ltd., has been elected Chairman of I.T.D. Limited, control of which has been acquired by the Austin Motor Co. Ltd. and Crompton Parkinson Limited, through their joint subsidiary company, Austin Crompton Parkinson Electric Vehicles Limited (see also page 282). Colonel Raymond T. Hartmann continues as Managing Director of I.T.D. Limited.

Mr. J. M. Hayward, who has been appointed Assistant Traffic Superintendent, East African Railways & Harbours (Tanganyika Section), is 31 years of age, and was educated at Monkton Combe School. He joined the Great Western Railway in the Traffic Department in 1935, and served in the Bristol Divisional Superintendent's Office. In December, 1939, he was commissioned in the Royal Engineers (Transportation), and saw service with the B.E.F. in France. In 1941 he went to Persia, where in 1942 he became Staff Captain, Transportation Directorate. In the next year he was posted to 192 Railway Operating Company, R.E., and shortly afterwards was seconded as Assistant Traffic Superintendent, Iraqi State Railways. Later he saw service in Italy, having landed at Salerno, and in October, 1944, was appointed Staff Captain, Operating, Transportation Directorate, Rome, and, in September, 1945, D.A.D. Tn, Milan. He was demobilised in May, 1946, and in July of that year returned to the G.W.R. in the Bristol Divisional Superintendent's Office. In February, 1947, he became a Traffic Department trainee, and after fifteen months station, yard and divisional office experience, was attached to the staff of the Superintendent of the Line in the Passenger Trains Section.

Mr. F. M. Khan, General Manager of the North Western Railway, Pakistan, who, as already recorded, has recently been in London, and is now making a tour on the Continent before returning to Pakistan, was appointed the first General Manager of the North Western Railway after it went over to Pakistan on August 15, 1947. He entered the service of the N.W.R., India, in 1918 as an Assistant Traffic Superintendent. In 1922 he spent his leave in England studying English railway working on the L.M.S.R., and

Mr. J. F. Bickerton, B.Eng., M.I.C.E., who, as recorded in our August 12 issue, has been appointed Assistant Divisional Engineer, Paddington, Western Region, British Railways, was educated at Oswestry High School and at Liverpool University. He began his railway career as a pupil under the Chief Engineer of the Cheshire Lines Committee, and subsequently became Assistant Engineer. In 1927-28 he was resident engineer in Buenos Aires, and, in 1928-30, superintendent engineer on works in Spain. Mr. Bickerton joined the Great Western



Mr. F. M. Khan

General Manager of the North Western Railway, Pakistan, who is on a visit to Europe

cognate subjects at the London School of Economics; and in 1926 he made a special study of publicity methods on the L.N.E.R. In 1929 he was appointed Assistant Chief Publicity Officer in the Central Publicity Bureau of the Government of India (Railway Board), and was later sent to London as Assistant Manager of the Indian Railways Publicity Bureau there, of which he was Manager from 1932 to 1934. Returning to India in 1935, Mr. Khan was posted to the N.W.R., but was shortly afterwards recalled to the office of the Railway Board as Deputy-Director, Traffic & Establishment. In November, 1938, he returned to the N.W.R., and, after serving in various capacities, was appointed Senior Divisional Superintendent in January, 1945. In December, 1945, he became Director of Traffic, Railway Board, and held that post until July, 1947, when the newly-created Government of Pakistan selected him to fill the post of General Manager of the N.W.R. Mr. Khan has travelled widely, having visited the U.S.A., Canada, Japan, China and Malaya, besides the United Kingdom and the Continent. He comes from the family of the Khan of Shewa (N.W.F.P., Pakistan).

Railway in 1930 as Assistant in the New Works Section, and became Assistant Resident Engineer, and, later, Resident Engineer, on Bristol station alterations. Since 1935 he has supervised many contracts for constructional works.

Mr. G. W. Anson, Stationmaster, York, North Eastern Region, British Railways, who, as recorded in our August 26 issue, has been appointed Assistant District Operating Superintendent, Hull, started his railway career in 1911 at Hull West Docks. After serving in H.M. Forces from 1914 to 1919 he returned to Hull at Victoria Docks. In 1924 he became temporary Assistant Controller, York Main Line Control, L.N.E.R.; and he was attached to the District Superintendents' Offices at Sunderland and Newcastle from 1932 to 1936 before becoming Assistant Yardmaster at Hull West. In October, 1939, he was made Traffic Agent & Stationmaster, Tyne Dock, and he later filled the positions of Goods Agent & Yardmaster, West Hartlepool; Goods Agent, Gateshead; Yardmaster, Hull (February, 1943); and Acting Assistant District Superintendent, Newcastle (March, 1944); before becoming Stationmaster at York in April, 1946.

September 2, 1949

We regret to record the death of Dr. F. Garaycochea, who had been for many years a member of the local board of the Buenos Ayres & Pacific Railway Co. Ltd.

Mr. Marvin W. Smith, Executive Vice-President of the Baldwin Locomotive Works, U.S.A., has been elected President & Chief Executive Officer of the company.

We regret to record the death on August 21 of Mr. Lancelot Sidney Kettle, District Goods & Passenger Manager, Derby, London Midland Region, British Railways. Mr. Kettle was born in 1899, and joined the L.N.W.R. in 1916 as a probationer, serving at London goods and passenger stations. In 1921 he was appointed to the Cartage Department in the Chief Goods Manager's Office, London. In 1923 he joined the

Railway at Girvan in 1919, and, after serving in various capacities, he was appointed to Saltley, Birmingham, as District Locomotive Superintendent for the L.M.S.R., in 1938, where he remained until 1943. During that period he formed and commanded the 33rd (Railway Battalion), Birmingham Home Guard. In 1943 Mr. White returned to Scotland as District Locomotive Superintendent, Motherwell, and two years later moved to Polmadie as District Locomotive Superintendent, remaining there until January, 1949, when he became Assistant to Motive Power Superintendent, Scottish Region, the appointment he now vacates.

Mr. J. Bathgate, who was appointed Public Relations Assistant to the Public Relations & Publicity Officer, Scottish Region, under the recent reorganisation of the Public Relations & Publicity activities

Mr. Cecil Bentham has retired from the board of Henry Simon (Holdings) Limited, but is continuing engineering and industrial work on his own account. A new company, Cecil Bentham Limited, has been formed, with registered office at Ashbourne House, 334, Wellington Road North, Stockport, of which the Directors are Mr. Cecil Bentham, Mr. Max Bentham, Mr. R. Andrew Barker and Miss Rosie Bentham.

Mr. E. H. Doughty has retired from his position as Chief Technical Engineer, British Timken Limited. During the recent war he served also as a member of the Bearing Technical Advisory Committee, Ministry of Supply.

Mr. J. B. Dunlop, who was recently appointed Publicity Assistant to the Public Relations & Publicity Officer, Scottish



The late Mr. L. S. Kettle

District Goods & Passenger Manager, Derby, L.M.S.R., and L.M. Region, 1945-49



Mr. R. White

Appointed District Motive Power Superintendent, Ayr, Scottish Region



Mr. J. Bathgate

Appointed Public Relations Assistant to Public Relations & Publicity Officer, Scottish Region



Mr. J. B. Dunlop

Appointed Publicity Assistant to Public Relations & Publicity Officer, Scottish Region

L.M.S.R. Western Division Superintendent's staff, and from April, 1928, was engaged on outdoor cartage work. Mr. Kettle transferred to the then newly-formed Commercial Research Section in 1933, and went to the Operating Department (Cartage Analysis) in 1934. In 1936, he was appointed Cartage Assistant to District Goods Manager, Manchester, and in 1938 became instructor at the School of Transport, Derby. In 1939, he was appointed Goods Agent, London Road, Manchester, and in April, 1944, Operating Assistant to District Goods Manager, Manchester, where, in the next December, he became Assistant District Goods Manager. He was appointed District Goods & Passenger Manager, Derby, in 1945. The funeral service, which was held at Duffield Parish Church on August 24, and was followed by cremation, was attended by railway officials representative of all departments.

Mr. Robert White, M.C., M.I.Loco.E., who, as recorded in our July 29 issue, has been appointed District Motive Power Superintendent, Ayr (H.Q. Corkerhill), Scottish Region, British Railways, was born at Dumfries and served an engineering apprenticeship with the Glasgow & South Western Railway. In 1913, after experience as improver draughtsman at Kilmarnock Works, Mr. White became a Sea-going Engineer with the P. & O. Steam Navigation Company on its India and China mail service. During the 1914-18 war he served with the London Scottish, and received the Military Cross and Bar. He rejoined the Glasgow & South Western

of British Railways, joined the Caledonian Railway at Edinburgh in 1909, and, after experience in the Parcels and Traffic Departments, was appointed to the office of the District Traffic Superintendent there. In the 1914-18 war he served with the Cameron Highlanders in Salopika and the Middle East. On returning to railway service in 1919 Mr. Bathgate was employed in the Commercial Department, Edinburgh, and subsequently was appointed to the L.M.S.R. School of Transport at Derby as a tutor. After his return to Edinburgh he acted as a Railway Service Representative before his appointment to the Advertising & Publicity Section of the Commercial Manager's Office, Glasgow, where he was concerned with press editorial matters. Since nationalisation he has been on the staff of the Public Relations Officer, Scottish Region.

We regret to record the death recently at St. Leonards-on-Sea of Mr. Frank Osborne Stevens, who was Chief Engineer of the Buenos Ayres & Pacific Railway from 1922 until his retirement in 1931. After some seven years service with the Buenos Ayres & Rosario and Argentine North Eastern Railways, Mr. Stevens joined the Bahia Blanca & North Western Railway in 1897 as Assistant Construction Engineer. In 1909 he was promoted to be Construction Engineer, and two years later was made Divisional Engineer. In 1922 he was appointed Chief Engineer of the Buenos Ayres & Pacific Railway.

Region, British Railways, commenced his railway career in the Goods Manager's Office of the Great Eastern Railway in 1907. He served in the 1914-18 war with the London Scottish, and on return to the G.E.R. took up duties in the Publicity Section. On the amalgamation in 1923 he was transferred to the headquarters office of the Advertising Manager, L.N.E.R., and later in the same year was appointed Assistant to the Scottish Area Advertising Representative. In 1936 he became Scottish Area Advertising Representative. On nationalisation Mr. Dunlop was appointed Advertising Officer, Scottish Region, the position he held until assuming his present post last April.

Mr. Robert Wishart, Fire Superintendent of the former L.M.S.R. section of British Railways, Scottish Region, has retired from railway service.

We regret to record the death on August 23 of Mr. J. A. B. Wood, Senior Assistant, Outdoor Machinery & Electrical Section, Mechanical & Electrical Engineer's Department, Scottish Region, British Railways, Glasgow.

Mr. Laurence Richardson, Chief Clerk at Derby Carriage & Wagon Works, London Midland Region, British Railways, has retired after 51 years of railway service. He has been a keen athlete, and is the only Englishman besides Lord Burghley to be elected a life member of the Ligue Royale Belge Athlétisme.

British Railways 1949-50 Winter Timetables

Additional main-line trains and more reserved seat, restaurant, buffet, and sleeping car facilities

At a press conference held in London on August 31, Sir Eustace Missenden, Chairman of the Railway Executive, gave details of British Railways winter timetables, to come into force on September 26.

Because of the restricted coal supplies available to the railways, the booked weekly passenger train mileage (3,956,723 miles) will be slightly less than last winter (3,972,458 miles), and will still be considerably below the mileage of the winter of 1938-39 (4,823,025 miles). The principal features of the new timetables are: additional main-line trains compared with last winter; a number of accelerations; and better advance seat-booking, restaurant, buffet, and sleeping car facilities than in any winter since the war.

In all there will be 41 more weekday and 22 more Sunday main-line trains than there were last winter. Included in this category are expresses between London and Birmingham, Wolverhampton, Swansea, York, Leeds, Bradford, Ipswich, and Cambridge, and on cross-country routes such as Birmingham-Cardiff; Swansea-York; Birmingham-Lowestoft; and Newcastle-Liverpool.

A number of express trains is being retimed, some to give better connections and others to meet requests from the public, whilst 27 trains will be accelerated by from 10 to 39 min. Electric trains will begin to operate between Liverpool Street and Shenfield on September 26, and the change-over of suburban trains from steam to electric traction on this section of the Eastern Region will be complete by November 7.

RESTAURANT CARS

More restaurant car services will be operated this winter, as follows:—

Number of restaurant and buffet car services

	Winter, 1949-50	Winter, 1948-49	Increase
Saturdays excepted	708	666	42
Saturdays only	644	615	29
Sundays	270	195	75

Each week there will be 3,275 trains on which seats may be reserved as compared with 2,042 trains last winter—an increase of 60 per cent. Over 700 more first class and over 1,000 more third class sleeping berths are to be available to the public each week than last winter.

There will be 78 named trains running daily, and the 12.20 p.m. restaurant car express from Kings Cross to Newcastle and the corresponding train in the reverse direction (10 a.m. from Newcastle) will be named "The Northumbrian," and the 8.48 a.m. from Leeds (City) to Glasgow (Queen Street) and 4 p.m. Glasgow (Queen Street) to Leeds (City) will be called "The North Briton." Several existing trains will have their pre-war names restored, as shown below:—

- "The Mid-day Scot" (Euston-Glasgow)
- "The Ulster Express" (Euston-Heysham)
- "The Thames-Clyde Express" (St. Pancras-Glasgow)
- "The Comet" (Euston-Manchester)
- "The Mancunian" (Manchester-Euston)
- "The Merseyside Express" (Liverpool-Euston)

There is still a serious shortage of passenger coaches and the condition of many of the carriages in service is poor. This is because it has not been possible to make good the deficiencies caused by the war, due to the restrictions on steel supplies and other materials and the shortage of skilled staff. Nevertheless, so far as numbers of coaches are concerned it has been possible by concentrating on repairs

to have 2,800 more vehicles available for service than at the beginning of 1948. This to some extent eased difficulties in dealing with summer holiday traffic and has reduced overcrowding; the benefit is also expected to be felt this winter.

EXCURSION TRAFFIC

Between January 1 and May 31, 51½ million passengers were carried at cheap day and excursion fares. In the same period of 1948, the figure was 16½ million (84½ million for the whole year). Between January 1 and August 20, 12,012 special trains, carrying 4,657,942 day, half-day or evening excursion passengers, were run. In the same period of 1948, the figures were 4,083 special trains and 1,697,474 excursion passengers. Blackpool Illuminations from September 16 to October 24 are being revived for the first time since the end of the war and an extensive programme of special excursions and cheap bookings is being arranged from a large number of provincial centres throughout the country.

Many hundreds of special excursion trains will be run in connection with football matches and similar events, and a number of combined excursions, embracing rail travel, sight-seeing tours, and theatres, will be a new feature of this winter's programme.

PERMANENT WAY

This year's programme of 2,000 miles of track renewal is proceeding substantially according to plan and will include 463 miles laid with the new standard type flat-bottom rail. The number of speed restrictions has been reduced in the last 12 months as shown below:—

	July, 1949	July, 1948
Speed restrictions due to:—		
Condition of track ...	28	46
Renewals ...	38	50
Other causes ...	134	133
	200	229

Copies of all the timetables should be available to the public before September 12, though some have been on sale since August 22.

Short-Term Railway Projects in Southern Italy

Among the Italian railway projects for which final plans were approved recently, and which are to be taken in hand shortly, the electrification of the old double-track Rome-Naples main line *via* Cassino is the most important. The southernmost section of the line, between Naples Central and Caserta (*via* Cencello), 20½ miles, was electrified in connection with the electrification of the Naples-Caserta-Foggia main line. The Naples Central Station-Caserta section of the Foggia line is, however, not identical with the Naples-Caserta section of the former. It leads *via* Aversa, is 21.7 miles long, and its Naples-Aversa section, 12½ miles long, is common with the western Rome-Naples main line *via* Formia.

Thus, of the old Rome-Naples main line *via* Cassio only the portion between Ciampino (8.7 miles, from Rome Termini Station) and Caserta remains to be electrified. The Rome-Ciampino section was converted in 1948 as part of the Rome-Ciampino-Frascati line. The distance be-

tween Ciampino and Caserta is 125.4 miles but trains are steam-worked from and to Rome, and locomotives are changed at Caserta only. The line has lost much of its former importance since the opening of the shorter western main line *via* Formia in the early 1930s, and there are only three stopping trains a day each way and a daily semi-fast train each way operating through between Rome and Naples, with a few local trains mainly in the neighbourhood of Naples.

The line will acquire a greater importance again as part of the new main line for Foggia, the construction of which is also to be begun soon. At present, Foggia, the most important railway centre between Ancona and Bari on the east coast, is reached from Rome *via* the new (western) main Rome-Naples main line as far as Aversa, and thence *via* Telesio and Benevento.

The new route which it is intended to form between Rome and Foggia, and which has already been called the southern *direttissima* is to consist of the Rome-Cassino section of the electrified old Rome-Naples main line. The distance between Rome and Cassino is 85.7 miles; to this section will be linked a new line which, leading due east, will join the Caianello-Vairano-Isernia-Carpinone-Sulmona line at Venafro. Caianello is on the old Rome-Naples main line, 19.9 miles south of Cassino, and Venafro is 12½ miles north of Caianello.

The Caianello-Sulmona line was completely wrecked during the war, and so far, only its northernmost section (Roccaraso-Sulmona) has been restored. The planned reconstruction of this line will be taken advantage of to build also the Venafro-Cassino link, as well as the connecting line between Venafro and Piedmonte d'Alife. Before the war, Piedmonte d'Alife was the terminus of an electric privately-owned line from Naples.

The railway was heavily damaged and its reconstruction was stopped short at Capua, 27.3 miles north of Naples. Its branch between Biforazione (2½ miles south of Capua) and Piedmonte d'Alife has not been rebuilt so far. The railway is now under Government administration.

From Piedmonte d'Alife the *direttissima* is to continue southwards to Telesio-Bagni, there to meet the ½-mile branch from Telesio-Cerreto (on the present Naples-Foggia main line) which will be incorporated in the new route. Telesio-Cerreto is 82.6 miles from Foggia. By this route, the distance between Rome and Foggia will be reduced to 202 miles which is to be covered in three hours instead of the five hours now required, *via* Aversa. Of the 202 route-miles there remain to be built as new construction only about 33½ miles.

The Caianello-Sulmona line is steam-operated and leads through the range of the Abruzzi. It was almost completely destroyed during the late war and only its northernmost section, Sulmona to Roccaraso, has been rebuilt.

From Sulmona, a junction with the Rome-Pescara main line, the line rises steeply until reaching Rivisondoli, at an altitude of 4,156 ft. as compared with 1,141 ft. at Sulmona. Apprehension has been felt by the local population that the derelict portion between Roccaraso and Caianello would never be rebuilt and would be replaced permanently by road services, but reassurances by the Minister of Transport revealed that the reconstruction scheme had been completed.

It is not believed that the whole line will be ready for service before some time in 1952. It has not been decided whether the former narrow-gauge electric

railway between Castel di Sangro, 14.9 miles south of Roccaraso and S. Vito (*via* Lanciano) on the Adriatic main line, south of Pescara will ever be rebuilt.

A beginning is soon to be made with electrification of the Avezzano-Pescara section of the Rome-Pescara single-track main line. The Rome-Avezzano section, 67 route-miles was electrified before the war. The Avezzano-Pescara section, 82 route-miles is the most difficult portion through the Apennines reaching the highest altitude of the whole line, 2,939 ft. at Carrito-Ortona, 18 miles east of Avezzano. An assurance was given recently by the Commission for the Co-ordination of Railways that the building of the projected standard-gauge line between L'Aquila, in the Abruzzi region, and Teramo, 50 miles further east, would be taken in hand within a comparatively short time.

Engineering & Marine Exhibition

The seventeenth Engineering & Marine Exhibition at Olympia, London, was opened by the Honorary President, Sir John Anderson, on August 25, and will remain open until September 10. On this occasion the exhibition, which, except for the war years, has been held biennially since 1906, occupies for the first time the whole of Olympia.

With the exception of automobiles and aircraft, every section of the engineering industry, light and heavy, displays its products, and there is also an important section devoted to welding. More than 500 firms are represented this year, and invitations have been sent out to 40,000 overseas buyers.

The theme of the exhibition is "Production Efficiency is the Road to National Recovery," and during the 15 days that the exhibition will remain open several thousands of workers from all parts of the country will visit Olympia as the guests of the organisers. They will thus be able to get a wider picture of the part their own individual efforts mean to the industry as a whole.

Though the exhibition covers an extensive field, special emphasis is placed on the mechanical and marine sides, and an outstanding section is that devoted to internal combustion engines, which includes a fine display of diesel engines for railway, marine, and industrial duties. There is also an important engineering research exhibit arranged by the Department of Scientific & Industrial Research.

Sir John Anderson, performing the opening ceremony, said that the engineering industry of this country was unique in that it maintained the traditions of the pioneers of the past, and at the same time kept in the forefront in applying to industry the latest scientific discoveries.

Later, speaking at the inaugural luncheon, Sir John Anderson emphasised the present need for expert salesmanship, without which, he said, no amount of productive efficiency would lead them to their goal. Great strides had been made in metallurgical processes in this country, and in this respect the Exhibition embodied one aspect of productive efficiency of primary importance.

Lt.-Colonel R. Riggall referred to the strong misconception current in the world today of the degree of effort being made by the United Kingdom to pull its weight with other countries during these difficult years. He would point out that British industry had every reason to be proud of what it had done in the way of production and exports.

Staff & Labour Matters

Lodging Turns Dispute

At a meeting at York on August 23, between representatives of the Railway Executive, officials of the A.S.E. & F. and the N.U.R., and representatives of Local Departmental Committees concerned, a full discussion took place on the general question of lodging turns and also on the lodging turn scheduled to be worked by a Grantham crew which was responsible for bringing to a head the present dispute.

The meeting had a salutary effect in that it enabled the point of view of the Railway Executive in regard to lodging turns to be brought home to the men at the depots. The policy of providing faster and more efficient long-distance passenger services was fully explained to the local representatives of the footplate staff.

With regard to the disputed turn to be worked by a Grantham crew, an assurance was given by Mr. W. P. Allen, Member of the Railway Executive for Staff & Establishment, that this particular turn would be abolished when the summer services ended on September 25 if the men would agree to work it until that date. This meant that it would need to be worked for only four more weeks.

The Grantham footplate staff, at a meeting on August 24, rejected the proposals of the Railway Executive and re-affirmed their decision to continue Sunday token strikes until the disputed turn was entirely withdrawn. On August 25, York drivers and firemen decided, after a two-hour meeting, to continue the Sunday strikes in support of the Grantham depot. Similar decisions were made by the Heaton and Gateshead footplate staff.

In view of the decision reached by the Grantham men, representatives of the Railway Executive, the N.U.R., and the A.S.E. & F. met representatives of the Grantham Local Departmental Committee on August 26. A ballot was taken to ascertain the attitude of the men concerned.

The outcome was that the decision to strike on Sunday, August 28, was reversed. This change of front at the depot where the present dispute had originated had quick repercussions throughout the motive power depots on the East Coast lines. Kings Cross announced that the footplate staff would work normally on Sunday, and by a narrow majority the York men elected not to participate in the Sunday stoppage. Depots in Scotland followed suit, and finally the only depots which decided to continue the token Sunday strike were Heaton and Gateshead in the North Eastern Region.

The decision at these two depots was taken after a meeting on Saturday, August 27. It was well attended and lasted an hour and a half. Afterwards, the Secretary of the Borough Gardens, Gateshead, Local Departmental Committee stated: "There were enough members present to make a majority decision. It was moved that we re-affirm the decision to strike. After an amendment that we should rescind the decision had been lost, the motion was carried by a unanimous vote."

As a result of the small number of motive power depots taking part in the strike, train services over the East Coast lines were almost normal on Sunday, August 28, and the interruption to traffic was very slight compared with the previous Sunday. Only five main-line trains were cancelled and there

was little interference with excursion traffic. The Tyneside electric services ran as usual.

Railway Executive's Statement

The Railway Executive issued the following statement on the lodging turns dispute on Friday, August 26:

"At the meeting with the footplate staff at York on August 23, the Railway Executive stated that when the present lodging turn at Grantham ended on September 25, with the termination of the summer train service, it would guarantee that no new lodging turn would be put on at Grantham. It transpired, on August 25, that this guarantee had apparently not been completely understood by all the Grantham footplate staff. The Railway Executive, in conjunction with the trade unions, therefore took steps today to have its intention placed beyond any doubt in the minds of the staff. As a result, the difficulties at Grantham over lodging turns have now been removed, and the Executive has received an assurance from Grantham that no further Sunday token strikes will take place.

"It will be recalled that there were Sunday token strikes in May and June last. These ceased when the N.U.R. changed its policy on lodging turns and the Railway Executive agreed to resume discussions on wages claims and to examine with the trade unions all trains involving additional lodging turns. These undertakings have been honourably carried out by all the parties concerned.

"Now that the present particular difficulty at Grantham has been removed, no further issue should arise over lodging turns on the East Coast lines, and, in fact, the enginemen at Kings Cross have notified their intention to carry out normal working on Sundays."

Wages Claim

The Board of Conciliation appointed by the Minister of Labour with a view to finding a solution to the deadlock between the Railway Executive and the N.U.R. on the union's claim for a flat-rate increase of 10s. a week for all salaried and wages grades, and for enhanced payment for all time worked after 12 noon on Saturdays, resumed its sittings on Monday, August 29. The Board has already heard evidence submitted by the three railway trade unions and the Railway Executive on the case for railway salaried and conciliation staff. The further meetings of the board are concerned with the position of railway shopmen, some of whom are represented by the N.U.R., while others are members of unions within the Confederation of Shipbuilding & Engineering Unions.

When the Minister of Labour first announced the setting up of the Board of Conciliation, the Confederation of Shipbuilding & Engineering Unions stated that they would not participate in the discussions as they were not parties to the wage claim submitted by the N.U.R., and, further, that the earlier offer of the Railway Executive to increase the rates of pay of certain lower-grade workers would upset the balanced wage structure which was reached as recently as May, 1948, after protracted discussions between the Railway Executive, the N.U.R., and the Confederation of Shipbuilding & Engineering Unions, in regard to the rates of pay and conditions of service of railway shopmen. As a result, however, of discussions which have taken place between representatives of the Confederation and the Minister of Labour, the Confederation has consented to be represented.

Ministry of Transport Accident Report

Near Loughborough, Eastern Region,
British Railways, January 9, 1949

Brigadier C. A. Langley, assisted by Colonel R. J. Walker, Inspecting Officers of Railways, inquired into the derailment which occurred near Sanford Viaduct, between East Leake and Loughborough, at about 1.43 p.m. on January 9, 1949. The 10.45 a.m. Class "A" freight train, Annesley to Woodford, composed of 53 loaded wagons and van, drawn by a 2-8-0 Class O-4 engine, with right-hand drive, having been stopped twice and warned of two permanent way works, overran the second, where rails had been removed. The engine overturned down the embankment and the driver was killed. The fireman was injured and trapped on the footplate but was rescued by a lengthman amid clouds of smoke and steam. Another lengthman was injured and detained in hospital. The weather was fine with good visibility and dry rails.

The general layout of the lines, etc., essential to an understanding of the case is given on the accompanying diagram. From Leake tunnel the line curves to the left at

signal box before he has reached a distance of one mile he must request the signalman to keep the necessary signals at danger for the protection of the obstruction. The signalman must not lower his signals or allow any train to pass his box in the direction of the obstruction until the handsignalman has informed him that the obstruction has been removed, and that the line is clear and safe for the passage of trains.

Until he is recalled by the ganger or man in charge, the handsignalman must remain at the signal box, place on the rail three detonators, 10 yd. apart, and exhibit a hand danger signal.

(e) *Intermediate hand signalmen*: When the obstruction is not within the protection of the home signal, the ganger or man in charge must, in addition to sending out a handsignalman the prescribed distance, also station near to the obstruction a second handsignalman, who must place on the rail three detonators, 10 yd. apart, and exhibit a hand danger signal.

When the distant handsignalman is out of sight of the handsignalman stationed near the obstruction, one or more handsignalmen as may be necessary must be stationed intermediate, for the purpose of repeating to the distant handsignalman the signals exhibited by the handsignalman near the obstruction.

Hand signalman to remain until recalled: The handsignalman must remain at the appointed place until he is recalled by the ganger or man in charge.

RULE 60.—*How driver to act on explosion of detonator*: *a* places other than fixed signals or signal boxes: When one or more detonators are exploded by a train other than at a fixed signal or a signal box and no hand signal is exhibited, the driver must, in clear weather, bring

was over a mile away Rule 217 (b) did not apply.) The Acting Inspector was short of men and decided to act himself as inner flagman for both lines and therefore posted only one up outer flagman.

The train travelled without incident to East Leake and exploded detonators near the home signal there. The flagman told the driver to go cautiously to Barnston, as rails were being turned, looking out for flagmen. He did not mention the second work, as he was not sure it was in progress. The signals were then cleared, including the intermediate block home and its distant.

When the train passed the tunnel summit the flagman, standing on the down side to get a proper view on the curve, gave a green hand signal. After the train had passed he heard detonators exploded. The next flagman saw the train stop, or nearly so, and then move on.

The outer flagman for the second work, standing ahead of the first, gave a red hand signal. He said detonators were exploded and the train stopped. An elderly man, whom he took to be the driver, was leaning out on the left of the cab, about two lengths past him, and he shouted that rails were being changed and that he should proceed cautiously. He thought the driver understood and replied "all

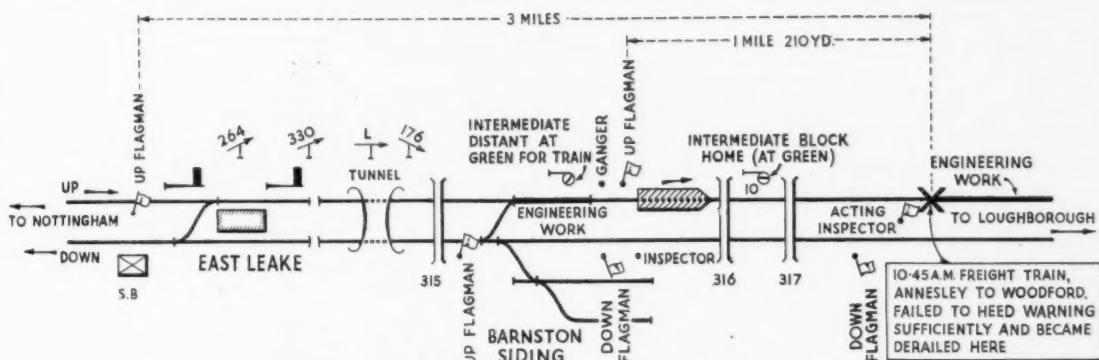


Diagram showing circumstances attending derailment near Loughborough, January 1949

120 ch. radius until near bridge 316, when it becomes straight until about midway between the signal No. 10 and bridge 317, where the curve recommences. The gradient falls at 1 in 176 from the tunnel to the site of the derailment. The intermediate block home signal No. 10 is approach lit and controlled from East Leake. Its distant is also approach lit and is replaced to yellow by a track circuit commencing 40 yd. in advance.

SAFETY RULES

The following are the rules governing the conditions obtaining in this case:—

RULE 217.—*(a) Protection of running line during relaying, etc., or in case of obstruction*: Before a rail is taken out . . . the ganger or man in charge must, except as otherwise provided in this clause (a) appoint a handsignalman to protect the obstruction. The handsignalman must, except as provided in clause (b), be stationed at a distance of one mile, or at such further distance as may be necessary, to the rear of the obstruction to ensure the driver of an approaching train having a good and distant view of his hand danger signal. The handsignalman must place on the rail 3 detonators, 10 yd. apart, and exhibit a hand danger signal. The ganger or man in charge must not allow a rail to be taken out or any obstruction to be placed on the line until this has been done.

The ganger or man in charge must not withdraw the handsignalman until the line is clear and safe for the passage of trains.

When the obstruction affects more than one line, the necessary steps must be taken to protect all the lines obstructed . . .

(b) Position of handsignalman and use of detonators and hand signals: . . . If the handsignalman when going out to protect an obstruction should arrive at a

train under such complete control as to enable him to stop at once if required and then proceed cautiously towards the place of obstruction or until he receives a signal for his guidance; during fog or falling snow he must bring his train to a stand and then proceed cautiously towards the place of obstruction or until he receives a signal for his guidance.

If, however, the driver receives a hand danger signal, he must bring his train to a stand as quickly as possible and not proceed until he receives authority to do so, except that in daylight and provided the weather is clear he may, after bringing his train to a stand, proceed cautiously towards the place of obstruction or until he receives a further signal for his guidance.

If after the explosion of a detonator, the driver receives a green hand signal waved slowly from side to side he must reduce the speed of his train to 15 m.p.h., or such other reduced speed as may be prescribed, over the portion of the line to which such green hand signal applies.

THE COURSE OF EVENTS

Work was in progress at two points, as shown on the diagram, for setting back and turning rails. An Inspector was in charge at the Barnston siding site and an Acting Inspector at the second one. Both operations had been included in the Permanent Way Notices for January 8 to 21, but in the second work reference was made to setting back rails only.

The Inspector posted up and down flagmen, as shown, and a portable telephone near the first work, to keep in touch with the signalman at East Leake, who had been told to keep his signals at danger until engineers had been warned. (As the box

right.) A ganger nearby also saw such a man, whom he was sure was the driver, cross the footplate. He heard him ask the flagman what was the matter. The flagman said something and pointed ahead. The Inspector confirmed the evidence regarding train movements, but did not see whether the flagman spoke to the driver. He was quite sure the fireman was on the right, and identified him later from a photograph.

The fireman gave conflicting evidence. He said the intermediate block distant was at yellow (it must have been at green) and shortly after detonators were exploded. The train did not stop, neither did the driver cross the footplate, so far as he knew. He saw the flagman in the cess and the man shouted at him twice, but he did not hear the message. He thought, however, it referred to work ahead. The driver took no notice and the train proceeded slowly, with closed regulator, with speed checked periodically.

The fireman further said that he noticed the intermediate block home at green and crossed to the right to look out for Loughborough distant, which is on the left beyond the scene of the accident, after passing bridge 317. Standing behind the driver he saw platelayers and a flagman 50 yd. ahead. The driver applied the brake and he applied sand, and the train

appeared to be stopping. The derailment followed.

The guard saw the intermediate distant, by then restored to yellow, but heard no detonators, neither did he think the train actually stopped. It might have slowed down sufficiently to receive a message. He saw the flagman, but not the intermediate block home. The train became derailed at a speed of 12 m.p.h.

The down flagman for the first work said the train passed him and he then saw the Acting Inspector on the down side holding a red flag. Two lengthmen, working near the rail gap, heard shouting and saw the Acting Inspector, who had been standing near them, running towards the train with his flag.

The Acting Inspector, however, said he was in the six-foot some 60 yd. from the gap when he saw the train. He ran towards it, as it did not appear to be stopping, and thought he was about 100 yd. from the gap when it passed him. The driver shouted "I can't stop" and he replied that he had two rails out. He thought from the noise that the brakes were on.

He admitted that he had not put down detonators in accordance with Rule 217 (e), thinking it unnecessary. His practice had been to walk up and down the work, until he heard detonators; he knew then that an up train was coming and walked towards it. All previous trains had stopped at his flag, but he ran towards this one because "he did not want it to get too far on top of him when he had got rails out." It would have been better to have appointed a ganger as flagman, but he would then have been another man short.

He knew he was going to undertake both setting back and turning rails, but did not notice the omission of the latter on signing the formal statement. Setting back produced gaps which were as dangerous as turning.

The Running Foreman at Annesley said the notices were placed in the office at 10.30 a.m. on January 8 and the driver, who signed on at 9 a.m. on January 9, came back and took a copy at 10 a.m. He was a most conscientious man, most particular about collecting notices.

Tests were made in Brigadier Langley's presence with a similar train, under substantially comparable conditions on January 31, with flagmen in the positions where the Sub-ganger and Acting Inspector said they were standing on January 9. After stopping near the former speed was kept at about 12 m.p.h. and the man standing in the Acting Inspector's position was first sighted from the *left-hand* side of the footplate at about 320 yd. At about 220 yd. the flagman was seen from the right-hand. Steam and hand brakes then stopped the train in 220 yd., opposite the flagman, or could have done so in, say, 350 yd. if speed had been 15 m.p.h.

INSPECTING OFFICER'S CONCLUSION

It can be assumed that the driver had read his notices and knew of the works being in progress. By an error of judgment he failed to keep his train under sufficient control and the Acting Inspector was seriously to blame for failing to take adequate protective measures.

There is no doubt about the warning relating to the first work having been correctly received, but as to the second there was a conflict of evidence. Brigadier Langley accepts the evidence of the engineering staff that the train stopped on the second occasion after exploding detonators and that the driver was properly warned. The two men on the ground there gave

straightforward evidence, largely corroborated by the Inspector, another reliable witness who was quite certain that he saw a young man and not the driver on the right-hand side of the cab. The fireman's evidence is held to have been of little value and his statements about crossing the footplate to the right to see a signal first visible from the left scarcely to be credited. He should have kept a proper lookout from his own side and seen the Acting Inspector's red flag at least 100 yd. before the driver did.

Brigadier Langley concludes that the train was allowed to reach a speed slightly higher than the driver realised. A cutting and curvature restricted his view and possibly he did not see the Acting Inspector when he first came in sight, thus leaving insufficient distance to stop in. It is, however, surprising that he did not reverse the engine. A man of 55 he had had 36 years' service, 14 as passed fireman and driver, with an excellent record.

The Acting Inspector failed to appreciate his responsibility for the safety of the line. Short of men, following a derailment at Leicester, he made a serious mistake in deciding to act as both supervisor and inner flagman and failed to take the elementary precaution of placing detonators at an adequate distance out. He may well have been late in resuming his duties as flagman when he heard the train and may not have reached the point he thought he did, as is confirmed by the lengthmen's evidence.

On the downgrade adequate warning was of paramount importance. The first flagman, over a mile away, was out of sight and no intermediate one was posted. There should have been at least one, near bridge 317, in addition to an inner flagman in sight of the work, but in the cutting. A field telephone to keep in touch with the signalman would have been valuable and had such precautions been taken the driver would, Brigadier Langley feels confident, have received sufficient warning.

The Acting Inspector had been in the service 30 years, ganger for 6½ years, and 3 months in his present position, with an excellent record.

REMARKS

As the intermediate block home signal, 840 yd. from the gap, was showing green, it might be thought that the driver took it as an indication that the obstruction ahead had been removed. The second and subsequent paragraphs of Rule 217 (b) however, only apply to work within a mile of a signal box and not to intermediate block signals, and an experienced driver should have been aware of this. To extend the rule to cover these signals would require telephone communication between the man in charge of the work and the signalman. The telephone at the I.B. signal would not necessarily be conveniently situated and then a field telephone installed near the work would have to be used. This type of instrument cannot, however, be relied on to the same extent as a fixed telephone and any failure in communication might well lead to delays or misunderstandings, with consequent potential danger to traffic. Furthermore, if Rule 217 (b) was applied to intermediate block signals it would also have to be applied to automatic signals. No doubt this could be arranged, but would add complications, and any failure might also lead to misunderstanding.

In view of these difficulties Brigadier Langley does not consider that any appreciable increase in safety would be obtained by altering the present rules, which are

clearly set out and should be understood by all concerned. The accident was due to an error on the part of a capable driver, in circumstances where sufficient protective measures had not been taken by an inexperienced Inspector.

Railway Reconstruction at Orleans

(Concluded from page 273)

Further, the great financial expenditure involved, estimated for railway work alone at fr. 1,125 million in 1944 and now much more, makes it difficult to obtain the requisite credits.

The S.N.C.F. is obliged therefore to proceed with the work within the limits of the credits allowed. In the first place, it undertook only indispensable reconstruction to ensure efficient operation of the lines. In the marshalling yard 29 shunting tracks are now in service. The Orleans side of the yard is completed, but the Paris side is still in a provisional condition and fitted with recuperated Fröhlich brakes. The reception sidings and the reconstruction of the Pont de l'Ardoise and the Pont des Champs Bouchaux under the lines are finished.

The passenger station Les Aubrais-Orléans is a temporary structure, which will be demolished when the new through station is ready. Although still unfinished, the marshalling yard at Les Aubrais is a decided improvement. At present, 3,000 wagons pass over the hump daily, compared with 2,000 in 1939. One of the first projects now in view is the building of the new depot. The old site will be placed at the disposal of the City.

BRIDGE REBUILT

Apart from the reconstruction work at Orleans, the S.N.C.F. has rebuilt entirely the bridge carrying the Orleans-Vierzon line over the Loire. The old viaduct, almost completely demolished by the bombing, was reconstructed provisionally on the ruins of the old masonry piers, the work being carried on day and night to restore railway communication throughout the South-Western Region with the least possible delay and interruption to traffic. The new bridge is situated 16 yd. upstream from the old structure. On the downstream side may be seen remains of an old ruined pier and of the light rail track laid across the piers to aid in building the new bridge. As the subsoil of the bed of the Loire is calcareous, difficulties were encountered in establishing the foundations of the new piers. Numerous soundings were made to avoid cavities, and large quantities of cement and gravel were filled in where necessary to ensure adequate strength.

MORGAN CRUCIBLE EXHIBITS AT OLYMPIA

—The Morgan Crucible Company stand at the Engineering & Marine Exhibition, Olympia, features several new developments of interest to foundrymen, including a new rotary crucible furnace, designed for the economic melting of swarf and metal powders. This furnace, it is claimed, has given the highest metal reclamation figures yet achieved. The Morgan bale-out furnace for aluminium and bronze die-casting is seen for the first time equipped with the new thermostatic control. This is widely used as a maintaining unit as well as a melting unit, and it is gas fired. Also shown is a new hydraulic tilting furnace designed for economy in metal melting and accurate metallurgical control.

Closing of Uneconomic Lines in Germany

Uneconomic secondary lines of the German Railways in Western Germany are to be closed in the coming months, according to a report from North Rhine-Westphalia. Train services are to be replaced by road services operated by German Railways. This is of importance in relation to the location of a number of industries, and a survey of lines likely to be earmarked for closing is being made.

The tendency in Western Germany to abandon uneconomic lines has been increasing recently because of the growing concern at the unfavourable development of goods traffic due to successful road competition. Of goods imported through the Hamburg port area in January, 1949, 40 per cent. continued to the interior by rail, 33 per cent. by road, and the remaining 27 per cent. by inland water transport. In June, the proportions were 23 per cent. by rail, 54 per cent. by road, and 23 per cent. by water. Even more striking is the proposal regarding the conveyance of cement made by the Westphalian cement industry. In April, 1949, 49.6 per cent. of the whole output was distributed by rail, but in June only 30.2 per cent. Of the cement produced in the industrial area along the Lower Elbe, during the first quarter of the year, only 16.68 per cent. was moved by rail, and by inland water transport, 10.94 per cent. The remaining 72.8 per cent. was distributed by road. This is the more significant as cement, a bulk commodity conveyed at one of the lowest railway class rates, so far has not been thought suitable for road transport.

The three forms of bulk transport—rail, road, and inland water—blame each other for this development. Inland water transport complains that its capacity is not being taken fully advantage of, and blames the railways for not having increased their rates to the extent compatible with the rising general price level. The railways also are disappointed at the failure of loadings to meet railway carrying capacity, and in turn blame road transport for intruding into spheres hitherto thought to be reserved for the railways, both by taking advantage of the flexibility and superiority for certain purposes of road services and by undercutting rates.

The railways view the future with misgivings. Although they admit that the expanding volume of production will mean an increased demand for transport, they consider that the expansion will not be enough to require the use of the whole of the combined capacity of the railways, roads, and inland water transport, and the more so as the number of road vehicles is still increasing. It is feared that competition will grow more severe, and the proposed increase in the lower railway rate categories, if carried out, is likely to offer even more inducement to consign by road. A further expansion of privately operated road services is also feared, once the German Railways proceed with their plans of closing uneconomic lines, even if the services concerned are replaced with road services operated by German Railways.

The expansion in the number of road goods vehicles in the three western zones during recent months is shown by these figures:—

Number of road goods vehicles.	1949	1949
Lorries	277,665	290,071
Tractors	80,928	87,012
Trailers	162,740	170,320

The loading capacity of lorries only,

i.e., exclusive of trailers, has been estimated at 550,000 tonnes as on April 1, 1949. The increase in the number of motor lorries by about 12,000 units up to July 1, and the loading capacity of the trailers, taken at an average of 3 tonnes, resulted in the doubling of this total. As stated, the fleet of road goods vehicles is still on the increase, it is thought, at a monthly average of 2,000 units with an average loading capacity of 3 tonnes. The average age of the fleet admittedly is high, but the number of vehicles scrapped during a month is considerably below that being added. Hence, the actual monthly increase in the loading capacity has been put at some 5,000 tonnes.

and comprise lawns, a rock garden, and a sunken garden, as well as a large kitchen garden adequate for the needs of the home. The property also includes 15 acres of foreshore, so allowing sea bathing direct from the grounds; the ruins of Gogarth Abbey are an interesting feature of the gardens. About 45 patients can be accommodated in the home. Every bedroom is supplied with hot and cold water and all bedrooms are large and airy. The home will be opened as soon as the legal formalities have been completed and will be in charge of Miss Kennedy, S.R.N., at present Matron of the home at Par.

North British Locomotive Order from Spain.—The Spanish National Railways have placed with the North British Locomotive Co. Ltd., Glasgow, orders for 25 2-8-2 locomotives, and 100 sets of parts. The Chairman of the railways has stated that negotiations are under way for the purchase of electric locomotives in Britain, France, and Belgium. See editorial note on page 257.

Excursion to Ashford Works.—An excursion to Ashford Locomotive, Carriage & Wagon Works was run from London by British Railways, Southern Region, on Wednesday, August 31. In the works, which were open for the day, locomotives and component parts and wagons in all stages of construction were on view, and guides were available to answer questions. A "Battle of Britain" class Pacific was on exhibition and visitors were invited to make a short ride on the footplate. A small charge for admission to the works was made, the proceeds of which will go to the Southern Railway Servants' Orphanage. Passengers from London travelled by the 11.15 a.m., or 1.15 p.m. trains from Charing Cross, and there were cheap excursions from many parts of Kent. A similar excursion will be run to Eastleigh Works on September 7.

East Indian Railway Officers' Dinner.—As briefly mentioned in our issue of August 26, the East Indian Railway Officers' dinner will be held on September 21, at 6.30 for 7 p.m. Tickets for members and their guests are obtainable from Mr. E. H. N. Lowther, "The Little Gables," Folders Lane, Burgess Hill, Sussex, price 18s. 6d., excluding wines, but including gratuities. Applications should

New Railway Convalescent Home



Former hotel at Llandudno acquired as a railway convalescent home for women employees (see paragraph above)

be accompanied by remittances—cheques to be in favour of the Honorary Secretary, E.I.R. Officers' Dinner Association—and should be made not later than September 17. The dress will be dinner suit or lounge suit. Particulars of the East Indian Railway Officers' re-union tea party, to be held on September 22, are obtainable from Mr. Howe, "Farleyedg," Westerham, Kent. Applications should be made not later than September 8 for members' tickets at 7s. 6d. and additional tickets for guests at 6s. 6d.

Irish Airways Loss.—Aer Rianta (Irish Airways), of which Aer Lingus is a subsidiary, has reported a loss of £4,689 in the management of Dublin Airport for the year ended March 31 this year. For the previous year there was a surplus of £10,788. The loss was mainly due to withdrawal of "Constellation" aircraft and fewer pleasure flights; general administration also showed a deficit of £3,871.

Standing Passengers on London Buses.
—As from August 29, the number of standing passengers permitted in London Transport buses during the peak periods has been reduced from eight to five. The ban on standing passengers after 10.30 p.m. on Sunday services in the Central area has been lifted. Country services will take standing passengers after 10 p.m. on Sundays, and on the last bus if it is earlier than this time.

Siemens Lighting at New Station Bookstall.—The new aluminium bookstall of W. H. Smith & Son Ltd. at Marylebone Station, which was described and illustrated in our July 29 issue, has lighting designed to the specification of the estate department of W. H. Smith & Son and constructed by Siemens Electric Lamps & Supplies Limited. Fluorescent "Natural" lamps, operated by remote-control gear, give the required colour effects. The lamps used vary in size and power from 2 ft. 40 W. to 5 ft. 80 W.

Control of Stacatruc Company.—The Austin Motor Co. Ltd. and Crompton Parkinson Limited announce that, through their joint subsidiary company, Austin Crompton Parkinson Electric Vehicles Limited, they have acquired control of

I.T.D. Limited, 142, Sloane Street, London, S.W.1. Mr. L. P. Lord, Chairman & Managing Director of the Austin Motor Co. Ltd. has been elected Chairman, and Colonel Raymond T. Hartmann will continue as Managing Director of I.T.D. which company is the sole world distributor of the petrol-driven range of British industrial fork lift trucks and ancillary materials-handling equipment marketed under the trade names Stacatruc and Aerolift. A.C.P.E.V. already builds electric industrial trucks sold under the trade name Electricar and electric road vehicles sold under the name Morrison-Electricar.

Portable Power-Driven Tools.—Tools operated by compressed air and electricity, established as valuable aids to production in almost every class of industry, are being demonstrated by the Consolidated Pneumatic Tool Co. Ltd. at the Engineering & Marine Exhibition. They are being demonstrated on the kinds of work they normally perform in shipyards, docks, and harbours, railway engineering shops, mines, civil and general engineering works. Also exhibited are CP two-stage air-cooled vertical compressors, woodborers, sump pumps, concrete breakers, etc., and models of Duff Norton mechanical jacks.

Excursions to Edinburgh Festival.—On each day from September 1 to 11 special cheap excursions are being given by British Railways, Scottish Region, from Glasgow (Queen Street and Central) to Edinburgh, in connection with the Festival. On weekdays, passengers have the choice of travelling by the 12 noon or 3 p.m. trains from Glasgow Queen Street, and on Sundays by either the 11 a.m. or 2 p.m. services, while from Glasgow Central the service is by the 11.40 a.m. or 1.20 p.m. (2.35 p.m. on Saturdays) trains. There is no Sunday service from Glasgow Central to Edinburgh Princes Street. Passengers may return from Edinburgh by any train on the day of travel. Special late return trains have been introduced between Edinburgh and Glasgow for the period of the Festival, leaving Edinburgh, Waverley, on weekdays at 11.15 p.m., arriving Glasgow Queen

Street, at 12.33 a.m.; on Sundays the late train departs from Waverley at 10.30 p.m., arriving Queen Street at 11.51 p.m. On Saturdays, until September 10, a special late train leaves Edinburgh. Princes Street, at 10.45 p.m. for Glasgow, Central.

International Sleeping Car Strike Ended.—The strike of restaurant car and sleeping car attendants of the International Sleeping Car Company in France ended on August 26.

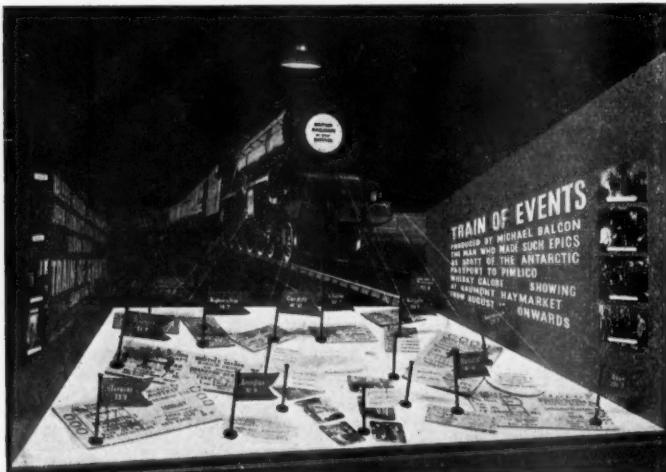
K & L Products at Olympia.—Exhibits shown at the Engineering & Marine Exhibition, Olympia, by K & L Steelfounders & Engineers Limited include Jones KL cranes, steel castings, Coborn anvils, Browett and Browett-Coborn petrol and petrol/paraffin engines, and Browett-Lindley steam engines. The Jones KL 22 mobile crane, with pneumatic tyres, and the Jones KL 15 crane, with solid tyres, were described and illustrated in our issue of October 1, 1948.

Scottish Motor Traction Company.—An extraordinary general meeting of the Scottish Motor Traction Co., Ltd. will be held in Edinburgh on September 16 to consider a reduction in the share capital of £2,750,000 by making repayment at par to the holders of £1,000,000 worth of $\frac{1}{2}$ per cent. preference stock. It is also proposed to cancel £502,989 of ordinary stock held by the British Transport Commission and in consideration of the relinquishment by the company of the remaining balance due in respect of the purchase of the passenger road transport undertaking. A second resolution provides for the increase of the capital from £1,247,011 to £2,750,000 by the creation of 6,011,956 shares of 5s. each with no defined rights.

Competition Results at Model Engineer Exhibition.—At the twenty-fourth Model Engineer Exhibition, held in London between August 17 and 27, to which reference has been made in our August 19 and 26 issues, the Locomotive Championship cup was won by Mr. E. Rix, of Maidstone, with his 5-in. gauge 4-6-2 locomotive *Liberty*. In the same section, the Bronze Medal went to Mr. W. H. Brittain, of Shoreham, for his 3½-in. gauge 4-in. scale, coal-fired "Royal Scot" class locomotive and among the three exhibits very highly commended were a 3½-in. gauge 0-4-0 saddle-tank engine by Mr. M. G. Baker, of Ashby-de-la-Zouch, and a 3½-in. gauge Pacific *Dominion of Canada* by Mr. Hillyer, of Leatherhead. The 5-in. gauge unfinished *Minx*, based on a L.B.S.C.R. Atlantic, which was the work of Mr. A. Burrows, of Weybridge, both was very highly commended and secured the Kennion Bros. (Hertford) prize.

Nelson Stud Welding Equipment.—Among the products of Crompton Parkinson Limited at the Engineering & Marine Exhibition, Olympia, are Nelson stud welding equipment for the electric arc welding of ferrous studs and pins by semi-skilled labour; two types of a.c. squirrel-cage induction motor—a 5 h.p. screen protected motor and a 5 h.p. Klosd type motor; a Crompton 5-k.w. d.c. generator; typical examples of Crompton cables for various applications; and switchboard and portable instruments for electrical measurements, including "tong test" ammeters and cell testers. The screen protected induction motor is ventilated by openings in the end shields and stator frame while in the Klosd type the interior parts are totally enclosed to exclude dirt

“Train of Events” Film Featured in Window Display



Window display at British Railways office in Victoria Street, London, featuring the film "Train of Events," which was made with the co-operation of the London Midland Region

OFFICIAL NOTICES

Crown Agents for the Colonies

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

SENIOR ESTIMATOR required, fully experienced in Rolling Stock Construction; permanent post for suitable applicant. Superannuation Scheme operating. Apply in writing, stating age, experience, and salary required to CRAVEN'S RAILWAY CARRIAGE & WAGON CO LTD., Darnall, Sheffield, 9.

ANTI-FRICTION bearing manufacturers offer position to Railway Engineers with good education and personality. Vacancy exists in Sales Engineering Department, specialising in railway work. Preference given to applicants under 30 who have served railway apprenticeship and have subsequent railway experience. Replies, giving details of education and experience, to Box 450, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

and dust, cooling being effected by a fan, mounted on the shaft at the non-driving end, which forces air over the ribbed motor casing.

Buenos Aires Transport Pay Decree.—Wage increases totalling about 8,000,000 pesos a month have been decreed for employees of the Buenos Aires Transport Corporation, now in liquidation. About £10,000,000 of British capital is invested in the corporation. The decree authorised the liquidators of the corporation to double the minimum tariff on all services to 20 centavos (2½d.) to cover the wage increases.

Petbow Exhibits at Olympia.—At the Engineering & Marine Exhibition, Olympia, Petbow Limited, Watford, is showing a selection of portable welding plant and transformer sets. The a.c. welders include three single operator units of 200, 300 and 400 amp. respectively, while the generator sets are of the following sizes: Type WMP 7, 300 amp. petrol driven, weight 6 cwt.; Type 38, 300 amp. petrol driven, weight 19 cwt.; Type 65, 400 amp. petrol driven, weight 20 cwt.; and Type 296, 2 x 300 amp. diesel operated, weight 30 cwt. All Petbow transformer sets exhibited are oil cooled and are complete with P/F condensers.

Bravery Awards for West Hartlepool Railmen.—At the Grand Hotel, West Hartlepool, on August 3, Mr. C. P. Hopkins, Chief Regional Officer, North Eastern Region, accompanied by Mr. T. S. Roberts, Docks Manager, West Hartlepool, made awards to 16 members of the staff for acts of bravery during a timber storage yard fire at Seaton Carew on April 27. The recipients were J. G. Thomas, Assistant Yard Master, West Hartlepool; Mr. B. Broadberry, Yard Inspector; Shunters W. D. Hall and F. Wild; Drivers George Walker and R. G. Hodgson; Firemen G. T. Fennelly and L. T. Longmore; Police Sergeants R. S. Monger and J. Gibbon; Detective Constables W. Crabtree; and Police Constables W. E. Edom and W. Walsh.

R.E. (S.R.) Transportation Units Annual Camp.—Under the command of Colonel C. R. L. Rice, 18 Railway Group, Royal Engineers (Transportation), Supplementary Reserve, recently attended annual camp at Longmoor, together with 151 Railway Maintenance Squadron, 152 Railway Traffic Squadron, 154 Locomotive Running Squadron, 158 Railway Survey Squadron, and No. 1 Railway Telegraph Squadron, Royal Signals. The units were officially welcomed by Brigadier R. Gardiner, Director of Transportation, and Commandant, Transportation Centre,

ASSISTANT ESTABLISHMENT OFFICER required by the Government of Nigeria for the Railway Department for one tour of 18-24 months, with prospect of permanency. Salary according to qualifications and experience in scale £600 to £970 a year, including expatriation pay. Outfit allowance £60. Free passages and liberal leave on full salary. Candidates not over 35 must be educated to matriculation standard and have had experience in dealing with staff work in a large undertaking. Preference will be given to candidates who hold a B. Comm. or B.Sc. (Econ.) degree or who have followed a course of study on personal management or secretarial practice. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/24893/3C on both letter and envelope. The Crown Agents cannot undertake to acknowledge all applications and will communicate only with applicants selected for further consideration.

R.E., Longmoor, and during their technical training they were inspected by General Sir Sidney Kirkman, Quartermaster-General to the Forces. Both military and technical training were carried out. Recreational activities included a sports day, cricket match and camp concert.

Renold & Coventry Chain Co. Ltd.—The new wheel plant of the Renold & Coventry Chain Co. Ltd., Didsbury, Manchester, is now in full production. The new plant cost some £500,000. The large output of the factory, the biggest of its kind in the world, has enabled the firm to return to the pre-war supply position in spite of the greatly increased demands of customers, which now can be met in full.

Callender's Cables at Engineering & Marine Exhibition.—Among the products exhibited by British Insulated Callender's Cables Limited at the Engineering & Marine Exhibition, Olympia, are Silicone rubber insulation and sleeving for high temperature conditions; welding cables with tough rubber insulation to resist kinking and spattering molten metal; current collector equipment suitable for electric works locomotives, cranes, conveyors, and hoists; and copper busbars. Current conductors of copper and cadmium-copper, to British and other standards, are on view with insulators and other accessories. For slow moving gantry cranes a simple pick-up type of collector is shown.

Delays in Payment of Compensation.—A memorandum on the subject of unnecessary delays in the settlement of negotiations has been submitted by the Road Haulage Association to the Minister of Transport. It is hoped that this will lead to a general improvement in the machinery designed to deal with such negotiations, but at the same time it is proposed to continue to press the matter with the B.T.C. itself, and an undertaking has been received from the Road Haulage Executive to look into specific instances of unnecessary delays brought to its notice by the Association. Members should send full details to the Association of any cases where unwarranted delays are being experienced.

Newton Victor X-Ray Equipment.—The exhibits of Newton Victor Limited at the Engineering & Marine Exhibition, Olympia, include two examples from the range of industrial X-ray equipment and accessories manufactured by the company. Model OX.140 is a light radiographic unit operating at pressures up to 140 kV. and designed for the examination of iron and steel sections up to 1½ in. thick and of all light alloy and plastic fabrications.

SENIOR DRAUGHTSMAN, with railway experience, required by anti-friction bearing manufacturers. Successful applicant will be appointed Assistant to the Head of the Railway Engineering Division. Experience of railway locomotive and/or carriage design necessary, and applicants should be capable of checking drawings and taking responsibility. Salary according to qualifications. Apply, giving details of experience, to Box 451, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE FIRST PASSENGER RAILWAY. By Charles E. Lee. A history of the Swansea & Mumbles Railway, which extends over 136 years. Cloth, 8½ in. by 5½ in., 91 pp. Illustrated. 5s. By post 5s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

STATION DESIGN. A striking example of modern British practice at the important wayside station of Luton. Reprinted from *The Railway Gazette*, July 7, 1944. Price 1s. Post free 1s. 2d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

Model OX.250 is an oil-immersed X-ray unit of higher capacity operating at voltages up to 250,000 and capable of producing radiographs of steel up to a thickness of 2½ in. to 3 in. Both the X-ray tube and high-tension transformer are oil-immersed in the same container, eliminating the need for high-voltage cables, and enabling the X-ray generator to be located at any distance from the control panel.

Institute of Transport in South Africa.—In accordance with the new regulations for the constitution and management of branches, the South Africa Centre of the Institute of Transport has applied for, and has been granted, recognition as the Institute of Transport, Southern Africa Division. The existing sub-centres have become sections.

Indian Locomotive Requirements.—An agency message from Prague reports that an Indian trade mission arrived there recently to make inquiries of representatives of Czechoslovak industry about a supply of spare parts for locomotives. A member of the Mission said that it had been found necessary to organise a quick tour of Europe seeking urgently needed spares because delivery dates of the British engineering industry were so far forward.

Scottish Goods Stations Closed.—The Scottish Region goods depots at Slamannan, and at Longriggend, together with the public siding known as Lodge Siding, have been closed as from September 1. Previously only freight train traffic in truck loads had been dealt with and after the closure of the points mentioned such traffic has been conveyed by rail to or from Caldercruix Station and between that station and the senders' or consignees' premises, by road motor. It is the intention that the track on the section between Slamannan and a point near Arden Peat Works should be lifted.

Rail and Road Congress at Essen.—A congress of transport and traffic experts under the auspices of the Haus der Technik, Essen, will take place at Essen from September 15-17. The programme includes papers by prominent experts on such subjects as traffic economics, railway electrification, Reichsbahn reconstruction, town planning in relation to transport, urban transport problems, rehabilitation of short-distance transport undertakings, the rôle of private road traffic, freight traffic by road, developments in the vehicle manufacturing industry, etc. Included in the programme are visits to railway installations and industrial undertakings in the Ruhr, including a special

excursion to the marshalling yard of Osterfeld Süd, the harbour station of Ruhrort and the Reichsbahn repair works at Witten.

W. H. Smith & Son (Holdings) Ltd. Share Offer.—Consent of the Treasury has been obtained to the proposed issue of 2,500,000 of 4½ per cent. cumulative redeemable preference shares and 1,650,000 each of "A" and "B" ordinary shares. These are being sold by the executors of the third Viscount Hambleton to meet liability for estate duty. The duty has been assessed at some £6,000,000. The list of applications opened and closed on September 1.

British European Airways Profit.—British European Airways made a profit last month for the first time, Lord Douglas of Kirtleside, Chairman, stated at a recent luncheon held to celebrate the 30th anniversary of the first regular London-Paris air service. More than 100,000 passengers were carried last month, and on one day a record number of 567 passengers were flown to Paris. Lord Douglas also announced that B.E.A. is negotiating with Vickers-Armstrongs to buy a number of "Viscount V-700" aircraft in addition to 20 Airspeed "Ambassadors" already ordered.

Tax Assessment on Wagons Taken Over: Test Case.—Colonel Huntley G. Spencer, the Chairman of Roads Reconstruction (1934) Limited, refers in his statement accompanying the annual report to the fact that when, some twelve months ago, the company had been forced to surrender its railway wagons to the British Transport Commission, £13,000 was maintained as tax provision to cover any tax contingency on that score. It was fortunate that they adopted a conservative policy since the Inland Revenue had, indeed, assessed them on the so-called profit on the requisition of their wagons against which assessment they—along with other companies in the trade—immediately appealed. A test case would be taken on the matter.

Forthcoming Meetings

Until September 10 (Sat.).—Liverpool Model Railway Exhibition, at St. George's Hall, Liverpool.

Until September 10 (Sat.).—Engineering & Marine Exhibition, incorporating the Welding Exhibition, at Olympia, London. Open 11 a.m. to 9 p.m.

September 3 (Sat.).—Permanent Way Institution, London Section: visit to the Mountsorrel Granite Co. Ltd. Works. Depart St. Pancras 9.02 a.m.

September 3 (Sat.).—Transportation Centre, Royal Engineers, Longmoor, Hampshire; Open day from 1.30 p.m.

September 7 (Wed.).—Scottish Society of Students of the Locomotive, at Room "C," Institution of Engineers & Shipbuilders in Scotland, 39, Elmbank Crescent, Glasgow, C.2, at 7.30 p.m. Inaugural meeting.

September 8 (Thu.).—Institute of Welding; visit to Engineering & Marine Exhibition, Olympia, London.

September 10 (Sat.).—Permanent Way Institution, Manchester & Liverpool Section; visit to Derby Locomotive Works, London Midland Region. Party assembles at Locomotive Works between 1.45 and 2 p.m.

September 12 (Mon.) to 17 (Sat.).—Second International Mechanical Engineering Congress, in Paris.

Railway Stock Market

Extreme caution prevails because it continues to be assumed that the Washington talks will have a big influence on the trend of markets. Vital decisions have to be made, and in many quarters it is believed that further reductions in imports from the dollar countries are inevitable, and an autumn Budget is considered not improbable. From the stock market angle the future will turn on whether sterling is to be devalued in relation to the dollar. It continues to be assumed that devaluation would bring a sharp reaction in British Funds with 3½ per cent. War Loan probably receding to the 90 level. Many industrial shares would probably rise strongly in price, however, because devaluation would provide a strong stimulus to exports, and particularly to the U.S.A. Nevertheless, even if this were the case, dividend limitation would prevent shareholders from benefiting.

After their good rally last week, British Funds have shown a partial reaction, growing talk of sterling devaluation affecting sentiment in this section. War Loan 3½ per cent., after changing hands over 96, reacted to 95½, and governed the trend in all long-dated stocks, including the nationalisation stocks, which also lost 10s., 3 per cent. Transport (1978-88) being 92 at the time of writing, after rising to 92½. Shares of companies with important trade and financial interests in the U.S.A. remained in favour.

Foreign rails moved narrowly, but where changed were mostly lower on balance, little buying interest being in evidence. San Paulo 10s. units, however, were an exception, having moved up to 16s. 9d. in response to the view that they may eventually prove to be worth at least 20s. Leopoldina stocks were unresponsive to the general belief that current market prices are below their eventual pay-out values. It is assumed that plans will include full payments in respect of interest arrears on the debenture stocks. This week, the 4 per cent. debentures were easier at 90, with the 6½ per cent. debentures at 132, the preference stock 24½, and the ordinary 7½. Leopoldina Ter-

rninal debentures firmed up to 101½, and the ordinary shares were 2s. 9d. Great Western of Brazil £10 ordinary were steady at 136s.

Manila "A" debentures have been firmer at 84, with the preference shares 6s. 9d. Nitrate Rails advanced from 60s. to 75s. on the capital return, and Taltal shares changed hands around 15s. 6d. Antofagasta ordinary and preference strengthened to 7½ and 44½, and Beira Rail bearer shares kept at 50s. 6d. Canadian Pacifics have been active around 18s., with the preference stock and debentures at 59 and 98½ respectively.

Bus and road transport shares in general have been firmer, apart from Scottish Motor Traction, which fell sharply to 85s. on market disappointment with the share-out terms; the preference shares were only 20s. Later, however, the ordinary rallied to 87s. Southdown eased to 115s. Lancashire Transport were 81s. 3d. B.E.T. deferred stock rallied to £1,600.

Iron and steels were firmer for choice with Dorman Long at 29s. Stewarts and Lloyds at 52s. 3d. regained part of an earlier decline. United Steel at 26s. 1½d. were better, awaiting the results, and Powell Duffryn at 27s. 3d. firmed up pending the dividend announcement. William Cory (79s. 9d.) were also better, as were T. W. Ward at 54s. Cammell Laird 5s. shares strengthened to 7s. 6d., awaiting the dividend announcement, and Vickers have been steady at 27s. 3d.

Locomotive building and engineering shares were mostly well maintained, with business on a modest scale. North British Locomotive were 17s. 9d., Vulcan Foundry 17s. 10½d., Wagon Repairs 17s., and Beyer, Peacock 18s. G. D. Peters 5s. shares were quoted at 15s. Charles Roberts have been at £6½ awaiting the full results.

INDIAN RAILWAY STAFF COLLEGE.—According to a Reuter report from Bombay, the Indian Transport Ministry is establishing a staff college to train railway officers.

Traffic Table of Overseas and Foreign Railways

Railways	Miles open	Week ended	Traffics for week		No. of week	Aggregate traffics to date	
			Total this year	Inc. or dec. compared with 1947/48		1948/49	Increase or decrease
South & Central America							
Antofagasta...	811	21.8.49	£62,070	+ 2,250	33	£2,237,220	+ 460,480
Costa Rica ...	281	June, 1949	36,466	+ 1,271	52	£431,896	+ 47,058
Dorada ...	70	July, 1949	29,403	- 4,063	30	£200,008	+ 24,342
G.W. of Brazil	1,083	21.5.49	19,200	- 10,600	20	£755,808	+ 1,200
Inter. Ctl. Amer. ...	794	June, 1949	£1,141,887	+ £73,006	26	£6,590,515	+ £475,619
La Guaira ...	224	June, 1949	£95,586	+ £20,726	23	£651,515	+ £11,222
Leopoldina ...	1,902	28.5.49	43,288	+ 3,864	21	£965,094	+ 155,382
Nitrate ...	382	15.8.49	19,472	- 3,779	32	£280,123	+ 89,867
Paraguay Cent. ...	274	19.8.49	£127,598	+ £39,895	7	£985,426	+ £264,815
Peru Corp. ...	1,059	July, 1949	226,454	+ 47,512	4	£226,454	+ 47,512
Salvador ...	100	May, 1949	£94,000	- £9,000	48	£1,884,000	+ £6,600
Taltal ...	154	July, 1949	10,660	- 650	4	£10,660	+ 650
United of Havana ...	1,301	11.6.49	£231,311	+ £14,746	49	£13,733,928	- £4,659,951
Canada							
Canadian National ...	23,473	July, 1949	10,351,250	- 99,000	30	£69,544,750	+ 1,978,500
Canadian Pacific ...	17,037	June, 1949	7,267,250	+ 380,750	26	£43,809,000	+ 3,601,500
Various							
Barsi Light* ...	202	July, 1949	40,822	+ 7,522	17	£134,002	+ 19,995
Beira ...	204	Feb., 1949	104,917	- 6,180	22	£589,461	+ 9,141
Egyptian Delta ...	607	10.6.49	18,118	+ 275	10	£135,657	+ 7,581
Gold Coast ...	536	July, 1949	227,818	+ 27,301	18	£933,447	+ 72,357
Mid. of V. Australia ...	277	June, 1949	29,379	+ 3,060	52	£350,879	+ 56,127
Nigeria ...	1,900	May, 1949	405,849	+ 8,949	8	£845,438	+ 43,716
South Africa ...	13,347	30.7.49	1,487,213	+ 180,205	17	£25,482,668	+ 2,812,016
Victoria ...	4,774	Apr., 1949	£1,444,898	+ 47,689	43	—	—

* Receipts are calculated @ 1s. 6d. to the rupee